

**2022**

**RFP for Procurement of FMS & Annual  
Maintenance Contract (AMC) of Abhay  
Command & Control Centre Project in  
State of Rajasthan**

**Volume I**

Contact Information

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**Request for Proposal (RFP)**  
**Procurement of FMS & Annual Maintenance Contract (AMC) of Command & Control Centre Project**  
**in State of Rajasthan**  
**(Volume - I)**

Reference No : F4.9 (954)/RISL/TECH/MISC/22/5479

dated: 07/11/2022

Unique Bid No.: RIS2223SLOB00077

<b>Mode of Bid Submission</b>	Online through eProcurement/ eTendering system at <a href="http://eproc.rajasthan.gov.in">http://eproc.rajasthan.gov.in</a>
<b>Procuring Authority</b>	Managing Director, RISL, First Floor, C-Block, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur-302005 (Rajasthan)
<b>Last date &amp; time of submission of Bid</b>	<b>01-02-2023 up to 03:00 PM</b>
<b>Date &amp; time of opening of Technical Bid</b>	<b>01-02-2023 at 04:00 PM</b>

**Bidding Document Fee: Rs. 1000/- (Rupees One Thousand Only)**

<b>Name of the Bidding Company/ Firm:</b>			
<b>Contact Person (Authorized Bid Signatory):</b>			
<b>Correspondence Address:</b>			
<b>Mobile No.</b>		<b>Telephone &amp; Fax Nos.:</b>	
<b>Website</b>		<b>E-mail</b>	

**RajCOMP Info Services Limited (RISL)**

First Floor, Yojana Bhawan, C-Block, Tilak Marg, C-Scheme, Jaipur-302005

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## ABBREVIATIONS & DEFINITIONS


<b>Act</b>	The Rajasthan Transparency in Public Procurement Act, 2012 (Act No. 21 of 2012) and Rules thereto
<b>Authorized Signatory</b>	The bidder's representative/ officer vested (explicitly, implicitly, or through conduct) with the powers to commit the authorizing organization to a binding agreement. Also called signing officer/ authority having the Power of Attorney (PoA) from the competent authority of the respective Bidding firm.
<b>BG</b>	Bank Guarantee
<b>Bid/ eBid</b>	A formal offer made in pursuance of an invitation by a procuring entity and includes any tender, proposal or quotation in electronic format
<b>Bid Security</b>	A security provided to the procuring entity by a bidder for securing the fulfilment of any obligation in terms of the provisions of the bidding documents.
<b>Bidder</b>	Any person/ firm/ agency/ company/ contractor/ supplier/ vendor participating in the procurement/ bidding process with the procuring entity
<b>Bidding Document</b>	Documents issued by the procuring entity, including any amendments thereto, that set out the terms and conditions of the given procurement and include the invitation to bid
<b>BoM</b>	Bill of Material
<b>CMC</b>	Contract Monitoring Committee
<b>Competent Authority</b>	An authority or officer to whom the relevant administrative or financial powers have been delegated for taking decision in a matter relating to procurement. MD, RISL in this bidding document.
<b>Contract/ Procurement Contract</b>	A contract entered into between the procuring entity and a successful bidder concerning the subject matter of procurement
<b>Contract/ Project Period</b>	The Contract/ Project Period 5 Years of Operations & Maintenance Services
<b>COTS</b>	Commercial Off The Shelf Software
<b>Day</b>	A calendar day as per GoR/ GoI.
<b>DeitY, GoI</b>	Department of Electronics and Information Technology, Government of India
<b>DoIT&amp;C</b>	Department of Information Technology and Communications, Government of Rajasthan.
<b>ETDC</b>	Electronic Testing & Development Centre
<b>FOR/ FOB</b>	Free on Board or Freight on Board
<b>GoI/ GoR</b>	Govt. of India/ Govt. of Rajasthan

<b>Goods</b>	All articles, material, commodities, electricity, livestock, furniture, fixtures, raw material, spares, instruments, software, machinery, equipment, industrial plant, vehicles, aircraft, ships, railway rolling stock and any other category of goods, whether in solid, liquid or gaseous form, purchased or otherwise acquired for the use of a procuring entity as well as services or works incidental to the supply of the goods if the value of services or works or both does not exceed that of the goods themselves
<b>ICT</b>	Information and Communication Technology.
<b>IFB</b>	Invitation for Bids (A document published by the procuring entity inviting Bids relating to the subject matter of procurement and any amendment thereto and includes notice inviting Bid and request for proposal)
<b>INR</b>	Indian Rupee
<b>ISI</b>	Indian Standards Institution
<b>ISO</b>	International Organization for Standardization
<b>IT</b>	Information Technology
<b>ITB</b>	Instruction to Bidders
<b>LD</b>	Liquidated Damages
<b>LoI</b>	Letter of Intent
<b>NCB</b>	A bidding process in which qualified bidders only from within India are allowed to participate
<b>NeGP</b>	National e-Governance Plan of Government of India, Department of Information Technology (DIT), Ministry of Communications and Information Technology (MCIT), New Delhi.
<b>NIB</b>	Notice Inviting Bid
<b>Notification</b>	A notification published in the Official Gazette
<b>OEM</b>	Original Equipment Manufacturer
<b>PAN</b>	Permanent Account Number
<b>PBG</b>	Performance Bank Guarantee
<b>PC</b>	Procurement/ Purchase Committee
<b>PQ</b>	Pre-Qualification
<b>Procurement Process</b>	The process of procurement extending from the issue of invitation to Bid till the award of the procurement contract or cancellation of the procurement process, as the case may be
<b>Procurement/ Public Procurement</b>	The acquisition by purchase, lease, license or otherwise of works, goods or services, including award of Public Private Partnership projects, by a procuring entity whether directly or through an agency with which a contract for procurement services is entered into, but does not include any acquisition without consideration, and “procure” or “procured” shall be construed accordingly



<b>Project Site</b>	Wherever applicable, means the designated place or places.
<b>PSD/ SD</b>	Performance Security Deposit/ Security Deposit
<b>Purchaser/ Tendering Authority/ Procuring Entity</b>	Person or entity that is a recipient of a good or service provided by a seller (bidder) under a purchase order or contract of sale. Also called buyer. RISL in this RFP document.
<b>RajSWAN/ RSWAN</b>	Rajasthan State Wide Area Network
<b>RISL</b>	RajCOMP Info Services Limited
<b>RSDC</b>	Rajasthan State Data Centre, New IT Building, Jaipur
<b>DCRs</b>	District Control Rooms
<b>DHQs</b>	Divisional Head Quarters
<b>Services</b>	Any subject matter of procurement other than goods or works and includes physical, maintenance, professional, intellectual, consultancy and advisory services or any service classified or declared as such by a procuring entity and does not include appointment of any person made by any procuring entity
<b>SLA</b>	Service Level Agreement is a negotiated agreement between two parties wherein one is the customer and the other is the service provider. It is a service contract where the level of service is formally defined. In practice, the term SLA is sometimes used to refer to the contracted delivery time (of the service) or performance.
<b>SSDG</b>	State Services Delivery Gateway
<b>State Government</b>	Government of Rajasthan (GoR)
<b>State Public Procurement Portal</b>	<a href="http://sppp.raj.nic.in">http://sppp.raj.nic.in</a>
<b>STQC</b>	Standardization Testing and Quality Certification, Govt. of India
<b>Subject Matter of Procurement</b>	Any item of procurement whether in the form of goods, services or works
<b>TIN</b>	Tax Identification Number
<b>TPA</b>	Third Party Auditors
<b>Unbalanced Bid</b>	Any bid below more than fifteen percent of Estimated Bid Value
<b>Unbalanced Bid Amount</b>	Positive difference of eighty five percent of Estimated Bid Value minus Bid amount Quoted by the bidder
<b>GST</b>	Goods and Services Tax
<b>WO/ PO</b>	Work Order/ Purchase Order

1. INVITATION FOR BID (IFB) & NOTICE INVITING BID (NIB)



**RajCOMP Info Services Ltd.**  
(A Government of Rajasthan undertaking)

email: info.ris@rajasthan.gov.in  
website: www.ris@rajasthan.gov.in  
CN :U72200RJ201830C033185

**INVITATION FOR BID (IFB) & NOTICE INVITING BID (NIB)**

Ref. No.: F4.9 (954)/RISL/TECH/MISC/22/ 5475      Date: 07/11/2022

Unique Bid No.: RTS22235LOB00074

<b>Name &amp; Address of the Procuring Entity</b>	<ul style="list-style-type: none"> <li>Name: RajCOMP Info Services Limited (RISL)</li> <li>Address: First Floor, Yojana Bhawan, C-Block, C-Scheme, Jaipur-302005 (Rajasthan)</li> </ul>
<b>Name &amp; Address of the Project Officer in-charge (POIC)</b>	<ul style="list-style-type: none"> <li>Name: Sh. Amit Sharma</li> <li>Designation: Manager (Technical)</li> <li>Address: First Floor, Yojana Bhawan, C-Block, C-Scheme, Jaipur-302005 (Rajasthan)</li> <li>Email: amit.ris@rajasthan.gov.in</li> </ul>
<b>Subject Matter of Procurement</b>	Request for Proposal (RFP) for Selection of System Integrator (SI) for FMS & AMC of Army Command & Control Centre for five years
<b>Bid Procedure</b>	Single-stage: two part (envelop) open competitive e-Bid procedure at <a href="http://eproc.mjsrjan.gov.in">http://eproc.mjsrjan.gov.in</a>
<b>Bid Evaluation Criteria (Selection Method)</b>	Least Cost Based Selection (LCBS)-L1
<b>Websites for downloading Bidding Document, Corrigendum's, Addendums etc.</b>	<ul style="list-style-type: none"> <li>Websites: <a href="http://spp.rajasthan.gov.in">http://spp.rajasthan.gov.in</a>, <a href="http://eproc.rajasthan.gov.in">http://eproc.rajasthan.gov.in</a>, <a href="http://www.doit.rajasthan.gov.in">http://www.doit.rajasthan.gov.in</a>, <a href="http://risl.rajasthan.gov.in">http://risl.rajasthan.gov.in</a></li> <li>Bidding document fee: Rs. 1000/- (Rupees one Thousand Only) in Cash/ Demand Draft in favor of "Managing Director, RISL" payable at "Jaipur".</li> <li>RISL Processing Fee: Rs. 1000 (Rupees One Thousand Only) in Demand Draft in favor of "Managing Director, RISL" payable at "Jaipur".</li> </ul>
<b>Estimated Procurement Cost</b>	Rs. 400,00,00,000/- (Rupees Four Hundred Crore Only)
<b>Bid Security and Mode of Payment</b>	<ul style="list-style-type: none"> <li>Amount (INR): 8,00,00,000/- (Rupees Eight Crore Only). (2% of the estimated procurement cost).</li> <li>Mode of Payment: Banker's Cheque or Demand Draft or Bank Guarantee of a Scheduled Bank in favor of "Managing Director, RISL" payable at "Jaipur"</li> </ul>
<b>Period of Sale/Download of Bidding Document (Start/ End Date)</b>	<ul style="list-style-type: none"> <li>Start Date: 07-11-2022 from 06:00 PM</li> <li>End Date: 08-12-2022 till 3:00 PM</li> </ul>
<b>Date/Time for Pre-bid Queries</b>	<ul style="list-style-type: none"> <li>Pre-bid Meeting at 12:30 PM on 14.11.2022 in RISL Board Room</li> <li>Last Date of submitting pre bid queries (through email only) by the bidder 15.11.2022 on <a href="mailto:amit.ris@rajasthan.gov.in">amit.ris@rajasthan.gov.in</a></li> </ul>
<b>Manner, Start/ End Date for the submission of Bids</b>	<ul style="list-style-type: none"> <li>Manner: Online at eProc website (<a href="http://eproc.rajasthan.gov.in">http://eproc.rajasthan.gov.in</a>)</li> <li>Start Date: 01-12-2022 from 11:00 AM onwards</li> <li>End Date: 08-12-2022 till 3:00 PM</li> </ul>
<b>Submission of Banker's Cheque/ Demand Draft</b>	Till 08-12-2022 up to 3:00 PM

C-Block, 1st Floor, Yojana Bhawan, T2&M, C Scheme, Jaipur-302005 ■ Tel: 141-618300, 325004, 222007 Fax: 141-222071



**RajCOMP Info Services Ltd.**

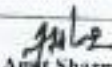
(A Government of Rajasthan undertaking)

email: info.risl@rajasthan.gov.in  
 website: www.risl.rajasthan.gov.in  
 CIN: U72200RJ2010SGC033185

<b>for Tender Fee, Bid Security, and Processing Fee*</b>	
<b>Date/ Time/ Place of Technical Bid Opening</b>	<ul style="list-style-type: none"> <li>• Date: 08-12-2022 at Time 04:00 PM</li> <li>• Place: Board Room, 1st Floor, RISL, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur 302005 (Rajasthan)</li> </ul>
<b>Date/ Time/ Place of Financial Bid Opening</b>	Will be intimated later to the Technically qualified bidders
<b>Bid Validity</b>	90 days from the last date of bid submission

**Note:**

- Bidder (authorized signatory) shall submit their offer on-line in Electronic formats both for technical and financial proposal. However, DD for Tender Fees, RISL Processing Fees and Bid Security should be submitted physically at the office of Tendering Authority as prescribed in NIB and scanned copy of same should also be uploaded along with the technical Bid/ cover.
- \* In case, any of the bidders fails to physically submit the Banker's Cheque/ Demand Draft/ Bank Guarantee for Tender Fee, Bid Security, and RISL Processing Fee up to prescribed time period, its Bid shall not be accepted. The Banker's Cheque/ Demand Draft/ Bank Guarantee for Bidding document fee, RISL Processing Fee and Bid Security should be drawn in favour of "Managing Director, RajCOMP Info Services Ltd." payable at "Jaipur" from any Scheduled Commercial Bank.
- To participate in online bidding process, Bidders must procure a Digital Signature Certificate (Type III) as per Information Technology Act-2000 using which they can digitally sign their electronic bids. Bidders can procure the same from any CCA approved certifying agency, i.e. TCS, Safecrypt, Ncode etc. Bidders who already have a valid Digital Signature Certificate (DSC) need not procure a new DSC. Also, bidders must register on <http://eproc.rajasthan.gov.in> (bidders already registered on <http://eproc.rajasthan.gov.in> before 30-09-2011 must register again).
- RISL will not be responsible for delay in online submission due to any reason. For this, bidders are requested to upload the complete bid well advance in time so as to avoid 11th hour issues like slow speed, choking of web site due to heavy load or any other unforeseen problems.
- Bidders are also advised to refer "Bidders Manual Kit" available at e-Procurement website for further details about the e-Tendering process.
- Training for the bidders on the usage of e-Tendering System (e-Procurement) is also being arranged by DoIT&C, GoR on a regular basis. Bidders interested for training may contact e-Procurement Cell, DoIT&C for booking the training slot.  
 Contact No: 0141-4022688 (Help desk 10 am to 6 pm on all working days)  
 e-mail: [eproc@rajasthan.gov.in](mailto:eproc@rajasthan.gov.in)  
 Address : e-Procurement Cell, RISL, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur
- Pre-bid Queries can be submitted through email only on email ids [amit.risl@rajasthan.gov.in](mailto:amit.risl@rajasthan.gov.in) and last Date of submitting clarification request (through email only) by the bidder will be 04.11.2022.
- The procuring entity reserves the complete right to cancel the bid process and reject any or all of the Bids.
- No contractual obligation whatsoever shall arise from the bidding document/ bidding process unless and until a formal contract is signed and executed between the procuring entity and the successful bidder.
- Procurement entity disclaims any factual/ or other errors in the bidding document (the onus is purely on the individual bidders to verify such information) and the information provided therein are intended only to help the bidders to prepare a logical bid-proposal.
- The provisions of RTTPA Act 2012 and Rules thereto shall be applicable for this procurement. Furthermore, in case of any inconsistency in any of the provisions of this bidding document with the RTTP Act 2012 and Rules thereto, the later shall prevail.

  
**Amit Sharma**  
 Manager (Technical)

## 2. PROJECT PROFILE & BACKGROUND INFORMATION

### 1) Background

With ever growing size of cities, ensuring high levels of physical security without significantly increasing the number of security personnel or budget seems to be a daunting task. A heightened sense of security and ever-increasing challenges require new tactics with more access to integrated system and centralized information. This necessitates the need of designing and implementing Command and Control Centres for critical infrastructure/edge equipment's across different cities.

A **command and control centre (CCC)** in ACCC refers to a secure building in a government that operates as the surveillance monitoring centre, coordination office and alarm monitoring centre all in one. The CCC includes Video Surveillance room, Dial 100 Control room, Forensic Investigation Room, Power Room, ITMS room, Data centre, FMS/NOC Room and related Non-IT Infrastructure The CCC is the “nerve centre” - a central administrative location from where overall assets and activities are monitored and managed. The command and control centres operated by State Police department.

City Surveillance system have high definition fixed and PTZ IP cameras, capable of providing optical zoom, to obtain quality video stream day in and day out for the Command & Control Centre. A diversified IP based network infrastructure backbone deployed involving high speed fibre optics/ wireless technologies to carry video from cameras to the command and control centre. The CCC equipped with huge video walls, workstations, video management servers and video data storage clusters of several hundred terabytes. The network surveillance and technical support staff shall remain available round the clock to ensure high functionality of the system.

The CCC integrated with emergency services like 100, 101, 112, etc. Services. Coordination with these agencies is critical. The Dial 100 control room established along with video surveillance room under the project.

The integrated city surveillance and Incident response system involves various types of CCTV cameras located at different locations in city, Video Management Software, CCC Software, ITMS Software Dial 100, Radio Gateway and Video Analytics. The video surveillance data from various cameras deployed stored in data centre and monitored at the Video Surveillance room.

### 2) Project Objective

The objective of this project intends to maintain the surveillance system which includes Command and Control Centre (Video surveillance room, Dial 100 control room, Data Centre & FMS/NOC room and Power room) at seven Divisional Headquarters and twenty-six districts of the state of Rajasthan. This system shall also integrate with surveillance systems of different stakeholders with the objective of enhancing safety and security in the cities. The system help-

- To provide assistance to citizen at the time of emergency
- To facilitate Ambulance, Police Van and Fire Brigade at place of incident
- Support police to maintain Law and Order
- To help in investigation of crime
- Help in preventing, detecting and dealing with criminal activities with minimum turnaround time
- To provide alerts and video analytics
- To monitor suspicious people, vehicles, objects etc. with respect to protecting life and property and maintaining law and order in the city
- To continuously monitor some important locations/public places in city area like area near to railway station, airport and other public places for keeping eye on regular activities & for emergency support.
- The proposed video surveillance system will enable the above by using VMS and Video analytics. This system will provide Alerts/ feedback to the Police Department about abnormal movements/ suspicious objects etc.
- Better Management of Security breaches based on alerts received from system

- Improved turnaround time in responding to any investigation case, faster access to evidence in case of security breach, law violation in the prescribed areas.

### 3) Project Overview

With the success of ongoing command and control project, GoR has decided to continue the comprehensive annual maintenance contract of the deployed equipment (Bill of Materials in Annexure-1) across seven Divisional Headquarters and twenty-six districts of the state of Rajasthan. It continuously ensures high levels of physical security without significantly increasing the number of security personnel.

**Note: The work has been executed at four places as mentioned below:**

1. **Command and Control Centre:** It comprises of Dial 100 Control Room, Forensic Investigation Room, ITMS Room, Video Surveillance Room and OIC Room etc.
2. **Bharat Nirman Rajiv Seva Kendra:** It comprises of Data Centre, Power/UPS Room and FMS/NOC Room.
3. **District Control Rooms:** It comprises of monitoring workstations, Power/UPS Room & VMS clients
4. **Edge locations:** It comprises of poles, CCTV cameras, Junction Box, Field Switches etc.

Video Surveillance Room and DataCentre	To monitor video feeds from CCTV cameras installed across the city and to be able to register incident. Based on registered incident align concern PCR and provide assistance to the needy personal.
Dial 100 Control Room (DR100)	To be able to attend phone calls from citizens, dispatch calls, use GIS maps and to send instructions to nearest police station, PCR Van, ambulance etc. To be able to use radio network for communication.
Storage of feeds	Storage for cameras at DHQs.
Collaborative Monitoring	The CCTV Project equipped to access selected cameras feeds of important institutions/public areas (wherever possible)

The existing infrastructure of Command and Control Centre is as follows:

S.No	Room Name	Sitting Place for No. of persons in Jaipur	Sitting Place for No. of Persons in other cities
1	Video Surveillance Room	24	20
2	Dial 100 Control Room	20	15
3	Other Room-1	5	5
4	Other Room-2	5	5
5	Power Room	Not Applicable	Not Applicable
6	OIC Room	1	1
7	Reception Area and Stairs	Not Applicable	Not Applicable
	<b>Total</b>	<b>55</b>	<b>46</b>

The existing infrastructure of Bharat Nirman Rajiv Seva Kendra is as follows:

S.No	Room Name	Sitting Place for No. of persons in Jaipur	Sitting Place for No. of persons in other cities
1	Data Centre	Not Applicable	Not Applicable
2	FMS/NOC Room	10	10
3	Power Room	Not Applicable	Not Applicable
	<b>Total</b>	<b>10</b>	<b>10</b>

### 3. PRE-QUALIFICATION/ ELIGIBILITY CRITERIA

- 1) A bidder participating in the procurement process shall possess the following minimum pre-qualification/ eligibility criteria

S. No.	Basic Requirement	Specific Requirements	Documents Required
1.	Legal Entity	<p>The bidder should be a Proprietorship firm duly registered either under the Rajasthan Shops &amp; Commercial Establishments Act, 1958 or any other Act of State/ Union, as applicable for dealing in the subject matter of procurement (Note: A self-certified declaration regarding the non-applicability of registration to any Act should be submitted by the bidder)</p> <p>OR</p> <p>A company registered under Indian Companies Act, 1956</p> <p>OR</p> <p>A partnership firm registered under Indian Partnership Act, 1932.</p> <p>OR</p> <p>Consortium is also allowed. The consortium shall not consist of more than two companies/ corporations and shall be formed under a duly stamped consortium agreement. (Attach Proof). In a consortium, one of the partners shall be designated as a "Lead Partner". Both member of the consortium shall be equally responsible and jointly and severally liable for the successful completion of the entire project. In case of any issues, Lead Partner shall be responsible for all the penalties. A bidder cannot be partner in more than one consortium.</p>	<p>- Copy of valid Registration Certificates</p> <p>In case of Company -Copy of Certificate of incorporation</p> <p>In case of a consortium, a Consortium Agreement must be submitted, duly signed by the consortium members. The Consortium Agreement must clearly specify the stake of each member and outline their roles and responsibilities as per Annexure-16</p>
2.	Financial: Turnover from IT/ ITeS	<p>Average Annual Turnover of the bidder from IT/ ITeS during the last three financial years, i.e., 2019-2020, 2020-2021 and 2021-2022 (as per the last published audited balance sheets), should be at least Rs.200 Crores.</p> <p>In case of consortium 100% of the turnover criteria shall be met by the Lead Bidder only.</p>	Chartered Accountant (CA) Certificate with CA's Registration Number/ Seal
3.	Financial: Net Worth	The net worth of the lead bidder, as on 31 <sup>st</sup> March 2022, should be Positive.	CA Certificate with CA's Registration Number/ Seal

4.	Technical Capability –I	<p>The lead bidder or consortium member should have successfully established &amp; commissioned or provided Facility Management services centralized at least four Command Control Centres in India. Work order (s) / FMS start (s) date shall be on or after 1<sup>st</sup> April 2016:</p> <p>a) Establishment and commissioning of centralized command and control centre with completed 1 year of successful FMS. OR</p> <p>b) Bidder should have experience in managing centralized command and control centre with minimum completed 2 years of experience in providing Facility Management Services.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• Above mentioned each 4 (four) Centralized Command Control Centre means the centralized software driven application for monitoring CCTV cameras and including all Four centre should have minimum 2000 camera licenses for centralized monitoring.</li> <li>• The above work orders must be executed/implemented by the firm itself. Work should not be outsourced or sublet or subcontracted.</li> </ul>	<p>Annexure-13 per project reference And Work order(s) and work Completion Certificates should clearly mention name of VMS software from the client; OR Work Order(s) + Self Certificate of Completion (Certified by the CA) OR Work Order(s) + Partial Completion Certificate from the client OR Work Order(s) + Partial Completion Certificate (Certified by CA)</p> <p>In case of CA certified certificate, Please provide CA's Registration Number/ Seal</p>
5.	Technical Capability -II	<p>The lead bidder or consortium member should have successfully established &amp; commissioned or providing Facility Management Services at least four Data Centre (All Four data centre should have 80 Physical Server and 1000 TB SAN/NAS ) in India. Work order (s) / FMS start (s) date shall be on or after 1<sup>st</sup> April 2016:</p> <ul style="list-style-type: none"> <li>• Establishment and commissioning Data centre (s) with completed 1 year of successful FMS. OR</li> <li>• Bidder should have experience in managing Data centre (s) with minimum completed 2 years of experience in providing Facility Management Services.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• Bidder's in house data centres shall not be considered.</li> <li>• The above work orders must be executed/implemented by the firm or in</li> </ul>	<p>Annexure-13 per project reference AND Work Order(s) + Self Certificate of Completion (Certified by the CA) OR Work Order(s) + Partial Completion Certificate from the client OR Work Order(s) + Partial Completion Certificate (Certified by CA)</p> <p>In case of CA certified certificate, Please provide CA's</p>

		consortium itself. Work should not be outsourced or sublet or subcontracted.	Registration Number/ Seal
6.	Tax registration and clearance	The lead bidder should have a registered number of i. GST Certificate ii. Income Tax / PAN number.	Copies of relevant certificates of registration
7.	Certifications	The lead bidder or consortium member must possess at the time of bidding, a valid a. ISO 9001:2015 b. ISO 20000-1:2018 c. ISO 27001:2013 d. CMMI Level 3	Copy of all valid certificate
8.	Mandatory Undertaking	The bidder should: - a) not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons; b) not have, and their directors and officers not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings; c) not have a conflict of interest in the procurement in question as specified in the bidding document. d) comply with the code of integrity as specified in the bidding document.	A Self Certified letter as per Annexure-5: Self-Declaration
9.	e) Other	The bidders with beneficial ownership from countries sharing land border with India, for participation in any public procurement in the State, shall only be allowed after prior registration with the Industries Department of the Government of Rajasthan as per Rule 13 of RTPP Rules and Government of Rajasthan Notification No. F.2(1)FD/G&T-SPFC/2017 dated 01.01.2021, 15.01.2021 and 30.03.2021.	Annexure-17

- 2) In addition to the provisions regarding the qualifications of the bidders as set out in (1) above: -
- the procuring entity shall disqualify a bidder as per the provisions under "Clause: Exclusion/Disqualification of bids in Chapter-5: ITB"; and
  - the procuring entity may require a bidder, who was pre-qualified, to demonstrate its qualifications again in accordance with the same criteria used to pre-qualify such bidder. The



procuring entity shall disqualify any bidder that fails to demonstrate its qualifications again, if requested to do so. The procuring entity shall promptly notify each bidder requested to demonstrate its qualifications again as to whether or not the bidder has done so to the satisfaction of the procuring entity.

#### 4. SCOPE OF WORK, DELIVERABLES & TIMELINES

1. The selected bidder shall be required to support, maintain and operate the Command and Control Centre in each of the seven cities (Ajmer, Bharatpur, Bikaner, Jaipur, Jodhpur, Kota and Udaipur) and 26 DCRs of State of Rajasthan covering following major tasks:
  - a) Provide Comprehensive Annual Maintenance Contract (CAMC) of IT/ Non-IT equipment in Command and Control Centre (which includes Video Surveillance room, Data Centre, Dial 100 Control room, ITMS room, Forensic room) in division and associated districts. Apart from that SI need to support, maintain EDGE devices (cameras, field switches, PCR cameras, etc. ) in all 33 districts.
  - b) SI need to provide support for Integration of collaborative camera feeds, Integration with RAJDHARA, Integration with digital radios, Integration between VMS & CAD application, Integration with drones/PCR VAN/Prisoner Van.
  - c) Bidder need to ensure all cameras installed in mobile vehicles should able to monitor in CCC via VMS or any other software but in such a way cameras enables all mobile vehicles ( PCR, prisoner under project.) could monitor together as a group in VMS or any other software.
  - d) Bidder need to ensure VMS configuration should keep as per the bandwidth requirement and in optimized way using multiple streaming, compression like H.265, H.264, multicasting.
  - e) SI need to provide support for CAD software integration with other applications and count of such application could be ten in numbers.
  - f) SI need to maintain another application named ABHED under the project. Maintenance include smooth running of the application throughout the tenure along each kind of update/upgrade or dependency.
  - g) SI need to provide support for Training and capacity building whenever required by RISL/DOIT&C required for any application. Training need to conduct in CCC centres for division/districts as and when required or instruction directed by RISL/DOIT.
  - h) Facility Management Services for five years. FMS team would be first incident responder of any issue during day to day monitoring. Based on those monitoring FMS team would take necessary analysis on the issue and would forward to concern team or resource for resolution of the issue as per the SLA mentioned.
2. Bidder need to manage data centre equipment like servers, storages, desktops, work station etc. in divisions and hardware in associated districts.
3. To upgrade, update and provide patches for the products even applications come for bidder support in the project (Bidder need to include requirement of new hardware/software with no additional cost to department).
4. Provide Comprehensive Annual Maintenance Contract (CAMC) of IT/ non-IT equipment and any other item as Access Control, Comfort AC, LAN Cabling, Electrical items, Smart Racks, UPS, DG set and other all items.

5. To maintain connectivity between Video Surveillance room, Dial 100 Control room, Forensic Investigation Room, ITMS room and Data centre & FMS/NOC Room of concerned division using existing connectivity type which are either fibre ( which are not under support of RAJSWAN/RajNET) and part of ACCC or LAN.
6. The work locations where support need to provide by Bidder are (i) Command and Control Centre which comprises of Dial 100 Control Room, Forensic Investigation Room, ITMS Room, Video Surveillance Room and OIC Room etc. (ii) Bharat Nirman Rajiv Seva Kendra which comprises of Data Centre, Power/UPS Room and FMS/NOC Room (iii) District Control Rooms comprises of monitoring workstations, Power/UPS Room & VMS clients (iv) Edge locations comprises of poles, CCTV cameras, Junction Box, Field Switches etc.
7. To liaison with RISL/ISP/TSP for connectivity requirement and PRI line requirement/recommendation in the data centre (if more lines are required in future) for cater calls traffic and will coordinate with RSWAN Project Team for integration of RSWAN Network with Command and Control centre.
8. To store 24 hours x 7 days of video from all cameras installed in the system for at least 30 days on primary storage. Important incidents would be required to be stored for longer duration as per requirement which would be communicated by End user or bidder need to identify on daily monitoring keeping current and future added cameras recording count and sizing in view.
9. To integrate video feed from cameras established by various other suppliers at Airport, Bus stand, Railway station, temples, forts, malls etc. The successful bidder has to extend full support during adhoc installation of cameras during fairs and festivals in the city. The bidder would be required to study the requirement of the such integration and submit detailed report for integration of collaborative cameras and cameras to be installed during fairs and festivals.
10. The bidder need to provide, manage support for remote feed of any camera from any city should be made available on web /mobile app /MDTs to closed user group like police stations, PCR Vans, DG office, CM office etc. as and when required.
11. The bidder should provide latest upgradation (all kind patch, dependencies of software or any additional hardware without extra cost to department) of Dial 100, Contact Centre (Avaya) & VMS with state level centralized dashboard.
12. The selected bidder has to maintain/update telephone numbers of hospitals, fire stations, police stations, PHED, Electric sub-station, Ambulances etc. as part of the system to be used by the operators working in the command and control room.
13. The bidder need to support in CCC project based data centre where new hardware/software procured under the project (CCC/EDGE/Smart city) apart from the exiting BOM as mentioned below. Bidder could provide skill support or need to provide best efforts in make the hardware/software operational.
14. The bidder has to provide software support for the perpetual licenses procured under the project for the functioning of applications for five years warranty/technical support with all solution updates, upgrade with all kind of patch, hardware/software wherever required for update/upgrade with no additional cost to department.
15. The bidder also need to provide required patch/software upgrade/update keeping resources like Computation, memory, I/O, compression with latest technique like H.265 etc. or better available for optimization.

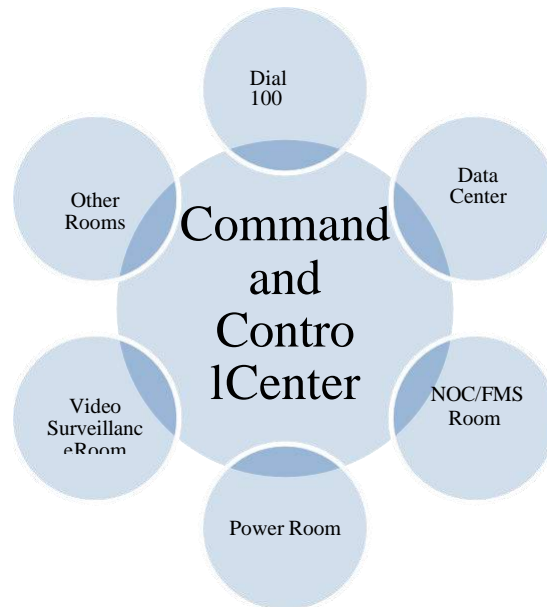
16. The bidder need to ensure to update/upgrade the application/software within two quarters only to their assigned divisions. Bidder need to plan in such way for the update/upgrade that at least 2 division should complete in first quarter and remaining divisions application/software update/upgrade should complete in second quarter without fail. In case above mentioned update/upgrade not completed in two quarters then penalty would be 10% of QGR applicable apart from SLA and invoice would not be accepted for the consecutive quarters till upgrade not completed.
17. For any asset whatever is part of project like chair (which could be 500 in numbers), table, printer including consumables like tonner, cartridge, should be in proper working condition by end of first quarter. And also bidder need to take for such consumables support/maintenance during the FMS period. Apart from that printer's imaging unit and drum need to replace in financial year (if need to replace/change) during FMS support period to keep printer in working condition.
18. Bidder also ensure to plan tape cartridge of secondary storage which include data as well as cleaning cartridge in sufficient quantity to support backup/restore during 5 years of support.
19. Bidder need to ensure that OEM (Qognify and Intergraph) onsite manpower need to deploy in Jaipur and Jodhpur within same timeline defined for manpower deployment for the bidder. Manpower should on OEM payroll for which same document could seek by department ( Payslip/HR department letter mentioned resource payroll based payslip, PF/SIPF deduction details ). If OEM resources not deployed, then invoice will not be consider till OEM resources deployment.
20. The bidder is expected to perform following activities:
  - a. Customization of all the application software supplied under this project as per project requirement
  - b. Integration between the supplied application software as per project requirement
  - c. Integration of new devices have to be undertaken as and when required. New devices may include sensors/cameras.
21. The bidder is responsible for operationalizing the entire solution. At present more than 10,000 cameras are up and running across the Rajasthan state. Later during the FMS period, the cameras are likely to be increased up to 21,500. Bidder need to plan necessary licenses keeping these numbers during 5 year project tenure.
22. Master System Integrator (MSI) has to provide CAMC (**Comprehensive Annual Maintenance Contract**) of existing IT/ non-IT equipment and any other item as per bill of material mentioned in Annexure-1(C) for next 5 years from the date of work order.
23. Bidder need to provide OEM warranty to upgrade, update and provide required patches of the products come under this category and any other item as per bill of material in Annexure-1(B). OEM must provide comprehensive onsite support/warranty of these products for next 5 years from the date of work order.

The selected bidder has to ensure that the entire solution is operational with the IT and Non-IT equipment's mentioned in the bid considering scalability of deployment of cameras during the FMS period. If any additional equipment/licenses is required by the selected bidder to make the entire solution operational, the bidder has plan it without additional cost to the department.

**Detail of each work is as follows:**

**1) Support and Maintain /existing IT/Non-IT equipment in Command and Control Centre, Data Centre & Edge locations**

The existing Command and Control Centre is typically divided into six sections. The CCC room is having a network of computer systems, which would enable collection of feeds (data, audio from police dial 100 and radio network, video etc.) from CCTVs and other devices and would have the capacity to store, analyse and disseminate it, wherever required.



The detail of each section is as below:

**Video Surveillance Room:**

Video surveillance room consist of workstations and video walls, where live feed from the CCTV installed in the city received continuously with flexibility to focus (zero-in) on a particular CCTV camera. It also have facility to playback archived videos. All camera feeds available for viewing at Video Surveillance room at any point of time. The city police provide manpower for operations at the video surveillance room. The video surveillance room equipped with IT and Non-IT hardware and software as provided in Annexure – 1 (Bill of material).

The operators in the video surveillance room proactively send information to field staff regarding site of incident either through telephone, SMS, internet etc. The operators able to send messages to Fire station, PCR Van, police station, ambulance, hospitals etc. as per requirement at the site of incident. The field staff able to send action taken report about the incident through their MDTs. The VMS able to stream feeds from authorized Tablets/iPads/mobiles/select devices on the Video Wall.

**CAD and Dial 100 Control Room:**

Existing CAD and Dial 100 Control Room is a part of the command and control centre in each city. A CAD and Dial 100 based police control room is to empower, people to connect to police and get police assistance anytime, anywhere at very short “response time” .

The objective of the Dial 100 Police Control Room is to receive and respond immediately to emergency calls made by the public seeking police assistance by directing the patrolling police vehicles available for the purpose. The centre equipped with latest technological tools like GIS MAP, CAD (Computer aided dispatch) and GPS enabled PCR VANs to attend to handle public distress calls for services.

The Dial 100 control room of each DHQ should be provided with four PRI lines (including 1 PRI for outbound) expandable up to 8 PRI lines as and when required without any extra cost inline hunting-single telephone number to a group of 30 channels. Number of incoming and outgoing calls can be defined as per requirement for each city. The Dial 100 control system aims to ensure that

- Calls can be made to 100/112 from any phone whether landline or mobile.
- System has multiple caller interface and is capable of receiving 120 calls at a single instance from day 1.
- Caller's name and address is automatically visible saving precious time.
- Exact location of the place of incident and nearest available police vehicle identified on GISmap which saves time.
- Status of response by police vehicle can be monitored by control room.
- Information received and police actions taken are automatically logged into the system generating a fool proof database of events.

All communications in the call centre recorded for future reference. The stored communication tamper-proof and non-editable. Its available for hearing at any future point of time. The Dial 100 control room equipped with IT and Non-IT hardware and software as provided in Annexure – 1 (Bill of material).

### **Data Centre & NOC Room/:**

This part of command and control centre is dedicated for storing and handling video feed being received from cameras installed across the city. This can be called data centre.

Bidder has to deploy minimum manpower as mentioned in "minimum manpower resources table for data centre" to manage the data centre. The FMS manpower seated in FMS/NOC Room.

The data centre equipped with IT and Non-IT hardware and software as provided in Annexure – 1 (Bill of material). The key components of the Application Portfolio are Video Management System, CAD Software and the customized Dashboard for various categories of personnel.

There are few other rooms in the command-and-control centre premises which are equipped with IT and Non-IT equipment. Bidder also to maintain/replace such area/locations/assets for period of next 5 years.

### **Power Room :**

Separate power room/ UPS Room are also existing in the project both at Command & Control Centre and Bharat Nirman Rajiv Seva Kendra. This power room accommodate power panel, 60 KVA UPS, 80 KVS UPS and batteries. The power supplies to Video Surveillance room, Dial 100 control room, other rooms, OIC room and data centre & FMS/NOC room made from respective power room. In case of power failure, the power requirement served from UPS and beyond backup time of UPS, DG set used. DG set come with requisite fuel to run the DG set for 8 hours. SI has to ensure that 8 hours of fuel is always available in the fuel tank of DG set so that the working at the Command and Control Centre is not hampered. The fuel got filled up in the DG set by the FMS manpower of the SI after seeking approval of concerned incharge of the centre. The payment for the fuel shall be made by RISL at quarter end along with FMS payment.

## **2) Edge Equipment (Camera, Pole, Switch etc.) Management Support**

- i. Bidder has to maintain the installed poles, switches, camera, radio, sensors etc. as per requirement of police. In case of pole shifting request either from department request or from OIC level at districts levels bidder need to provide all assistance

- ii. Bidder assess requirement for collaborative feeds to be received from temples, malls etc. After verification, the list of requirements for connecting collaborative feeds with command and control centre should share to nodal officer of RISL.
- iii. Bidder able to configure edge equipment, as and when required and provide services, such as relocation of edge equipment, or adding or removing accessories attachment or other devices/peripherals.
- iv. Bidder maintain record of all edge equipment installed, movement of edge equipment within site, changes and configuration of edge equipment.
- v. Bidder need to make arrangement in each districts with required resource like vehicle, safety equipment's etc to attend any incidents or service request under the project.
- vi. Bidder arrange/download from OEM/authenticated provider to load drivers of peripherals, as & when need arise.
- vii. Bidder configure/reconfigure edge equipment to ensure optimum network connectivity and applications/service availability to all users.
- viii. Bidder re-establish network connectivity and application availability after any hardware/software failure.
- ix. Bidder need to ensure to equipped division/districts level workforce with sufficient equipment's like multi-meter, safety gloves, foldable extendable ladder ( with sufficient length up to pole length) to carry out their day to day activities related to incident or preventive maintenance
- x. Bidder has to maintain proper earthing at location of poles.
- xi. Two Field teams having with vehicle fitted with hydraulic lift, driver and three support staff in each team as a unit at Jaipur & Jodhpur in each shift.
- xii. One Field team having with vehicle fitted with hydraulic lift, driver and three support staff which will be considered as a Single unit at each Divisional Head Quarters (except Jaipur & Jodhpur) in each shift.

### **3) Maintenance of existing items handed over by RISL/GoR to selected bidder:**

- i. Selected bidder has to provide maintenance of all accepted items for a period of 5 years.
- ii. Selected bidder is required to undertake repair / replacement of faulty parts of these items.
- iii. Selected bidder is expected to maintain sufficient inventory of these items in each city so that the problem is resolved as per SLA.

### **4) Collaborative Monitoring**

Bidder has to provide a solution which will have a collaborative framework for receiving video feeds from various systems and sub-systems of public and private establishments like malls, airport, railway stations, bus stands, temples, forts etc. The list of establishments centre be provided by Police Department from time to time.

VMS centre have provision to ensure that such video feeds are continuously streamed on one of the displays of the Video Wall.

Further, adhoc requirement for installation of cameras at fairs/ festivals or department (either procurement agency or end user request after necessary nod/approval) may also be required to be undertaken by the successful bidder. The successful bidder has to extend full support during adhoc installation of cameras in fairs and festivals in the city. The bidder would be required to study the requirement of all such integration and submit detailed report for integration of

collaborative cameras and cameras to be installed during fairs and festivals. The bidder is expected to enable the command and control centre for live viewing and storing of the feed.

#### **5) Integration of VMS software with Emergency Response System (112)**

Bidder shall be responsible for integration of complete VMS software with Emergency response system already established by MHA for all states.

MHA has established emergency response system with following objectives:

- i. Providing single emergency response number across the country for women safety
- ii. Integration with non-emergency number for counselling, answering to complaints, taking feedbacks etc.
- iii. Providing 24 Hours and 7 Days (24x7) efficient and effective response system which can receive input from various voice and data services such as call, SMS, email, etc. to attend to citizen in distress.

#### **6) Training and capacity building**

Bidder has to provide application and role based training to the CCC operators and supervisors of different applications like VMS, CAD software, Contact Centre solution, radio gateway software, etc. during FMS tenure period whenever demand raise by DOIT/RISL for end user/department to use application who are going to deploy in CCC. Training would be provide to the end user for their respective CCC centres.

#### **7) Civil works**

RISL has established data centre and command and control centre and handed over to existing MSI. Selected bidder has to maintain complete IT & non-IT infrastructure for next 5 years in terms of Civil work, interior and Electrical work including lightening in 7 divisions and associated districts under CCC project. The work executed at three places viz (i) City Command and Control Centre which comprises of Dial 100 Control Room, Data Centre, Video Surveillance Room , other rooms and OIC Room etc. (ii) Bharat Nirman Rajiv Seva Kendra which comprises of Data Centre, Power/UPS Room and FMS/NOC Room (iii) All 26 District Control Rooms comprises of monitoring workstations, Power/UPS Room & VMS clients

#### **8) Electrical works**

Electrical cabling from the allotted input source and up to the equipment to be kept at each location, racks, servers etc. as the case may be shall be the responsibility of the successful bidder. Electric cabling as per requirement at each site in command and control centre (for video surveillance room, dial 100 control room, ITMS Room, data centre& NOC Room, OIC Room and forensic investigation room), in divisions and districts associated rooms built under CCC. Bidder need to maintain and equipped electric room with required equipment's to avoid any electric short circuit, Lags, spikes etc. kind of scenarios as per their best efforts. Bidder also need to maintain installed electric equipment's like ceiling fans, exhaust fan, lights, AC ( split AC) and precision AC installed at CCC in districts and divisions.

#### **9) Facility Management Services and Helpdesk**

Bidder has to provide Facilities Management Services and shall be supported by centralized helpdesk which will work as a single point of contact for complaint management & resolution for all the users of the city surveillance and incident response system within each division. This helpdesk might be integrated with the Enterprise Management System. The helpdesk Shall be

designed to meet the SLA response & resolution timelines. The helpdesk tool should have facility for multiple users-based access/login for ticket log and same time other user could update the tickets from their respective credentials. Helpdesk should have facility to create different group/role-based login so that respective members of those group or role could accept and update the tickets.

The SI provide Facility Management Services (FMS) for Operations & Maintenance phase for command-and-control centre including day-to- day operations of data centre Items/services for entire project period of five years.

### **I. Asset Management Services**

- a. The SI required to create and maintain database of all IT and Non-IT assets installed in command and control centre (including video surveillance room, data centre, dial 100 control room, forensic investigation room, ITMS Room, OIC Room, NOC room and power room) as per following details:
  - i. The database should have information like make, model, configuration details, serial numbers, licensing agreements, warranty and AMC details, place of installation etc.
  - ii. The SI required to create and maintain software inventory with information such as Licenses, Version Numbers and Registration Details along with their configuration details and history.
- b. The SI required to record installation and removal of any equipment and inform RISL even if it is temporary. All entry and exit of assets into the Shall should be through gate pass.
- c. The SI required to register all software with respective OEMs.
- d. The SI would do tagging at each device and maintain mapping either manual or RFID based but whole hardware mapping should be available for audit purpose.
- e. The SI required to perform software license management. The software remain under technical support from respective OEMs mentioned in Annexure -1 (B) for a complete FMS period of five years.
- f. The SI use customizable software for Asset Management Services to full fill all mentioned requirement for asset management under the project as mentioned in above asset management requirement.

### **II. Preventive Maintenance Services**

The SI provide preventive maintenance services for all the equipment's (IT as well as non-IT) supplied at least once in every quarter. The preventive maintenance Shall include -

- a. Cleaning and removal of dust and dirt from exterior of the equipment.
- b. Conduct inspection (check for loose contacts in the cable and connections etc.), testing, satisfactory execution of diagnostics and necessary repairing of equipment.
- c. SI intimate and take approval from purchaser before carrying out preventive maintenance activity.
- d. SI maintain a register of item wise preventive maintenance done.

### **III. Corrective Maintenance Services**

The details of the work to be undertaken by SI are as follows:



- a. Troubleshooting of problems related to the equipment/network/services and rectification of the same.
- b. Repairing of defective parts/components.
- c. Replacement of parts/components beyond repair with parts/components of same or better specifications ensuring compatibility without any additional cost.
- d. Providing suitable standby for parts/components with same or better specifications till the time the original part/component is repaired or replaced so that daily business is not affected.
- e. The maintenance support for equipment shall include all passive components including, screws, clamp, fasteners, ties anchors, supports, ground strips, wires, fiber connecting kits, gears, spares, power-cables, network cables etc.
- f. Maintenance support services pertaining to electric and network cabling and OFC shall include:
  - i. Re-fixing/shifting of cables/OFC whenever switches and racks are shifted whatever comes under ACCC and not with RAJSWAN or RAJNET.
  - ii. Removing and laying of UTP cable and I/Os with casing, etc in case renovation activity is undertaken in any building covered under the project.
  - iii. Replacement/repair of OFC/UTP/Power cables & connectors/ ports/ equipment on entire laying route.
  - iv. Maintenance of cables and conduits of equipment procured ( As per BOM).
- g. Documentation of problems, isolation, cause and rectification procedures for building knowledge base for the known problems.
- h. SI maintain proper file/register of all incidents and problems occurred in the to handle with knowledge details gained in incident handling

#### **IV. Configuration and reconfiguration/rollback of equipment/network/services**

- a. The SI responsible for configuration/re-configuration/rollback of all the equipment /Software /services under this project as and when required.
- b. The SI maintain a record of hardware and software configurations of all equipment including the details of different policies implemented on the devices such as VLAN configurations, access control lists, routing filters, clustering details etc. SI keep regular backups of the configurations of each of the devices.
- c. SI adhere to the change management procedures already defined to ensure that no unwarranted changes are carried out on the devices. All the changes must be formally approved by the SI designated team leaders and recorded. The Purchaser /designated agency shall communicate such change management procedures and their amendments made from time to time.
- d. SI do proper version management of these configurations.
- e. SI ensure that these configurations are not accessible in general and must be kept confidential with the Purchaser and project manager as per security policy of Data centre.

#### **V. Vendor Management Services**

SI coordinate with external vendors for upkeep of equipment/software/services to meet the SLA and centre liaison with respective vendors/OEMs for repairs/replacement of items and/or update/upgrade/troubleshoot the software/services. To perform this activity, the SI Maintain

equipment/software/service wise database of the various vendors and service providers with details like contact person, telephone numbers, escalation matrix, response time and resolution time commitments, expiry date of Maintenance Services/Warranty/Software Assurance/Support etc also share same reports with client whenever seeks by them.

- a. Log the calls (via mail or OEM provided helpdesk tool) with respective vendors/OEM/service providers with details like occurrence of incident/ problem, repetitive pursuance and coordinate with them to get the equipment repaired/problems resolved.

#### **VI. Network Management Services**

A LAN Network has been established in the command and control centre connecting various equipment's including servers, SAN, Tape Library, Network switches, Routers, workstations etc. A FMS/NOC room has been established at CCC to monitor and manage the internal network. Besides internal network, RSWAN and internet leased line Shall also be integrated with CCC network enabling access to various services being provided using these networks.

The scope of work under network management services would include -

- a. To ensure continues operation and upkeep of the LAN Infrastructure in the command and control centre (including data centre, dial 100 control room, forensic investigation room, ITMS room etc.) including all active and passive components so that the network is available 24 x7 as per the prescribed SLA.
- b. Configuration/Reconfiguration/deployment and Management of various policies like Security policies, Access policy, IP Policy, routing policy etc. including but not limited to opening/closing of specific ports on network devices.
- c. Performance tuning to ensure resilient performance, reliability and high availability of the network services.
- d. The SI coordinate with RSWAN Team for integration of RSWAN network with CCC Network.
- e. Maintenance and management of physical link established between data centre and video surveillance room, dial 100 control room, FMS/NOC room, ITMS room and forensic investigation room over OFC which is not part of RAJSWAN/RAJnet project but comes under ACCC project.
- f. The SI also be responsible for integration, management, maintenance configuration/reconfiguration and network parameter tuning on the devices which are part of ACCC project as per the available Bandwidth/networks which needs to be integrated with Data Centre network during entire contract period.
- g. The SI responsible to monitor the availability of various links and their packet drop, latency and utilization at Data Centre network. The SI also maintain logs on the basis of time, interface, IP address, application wise etc. for traffic analysis for the requisite period defined in respective policies.

#### **VII. Server Management Services**

- a. SI manage the servers on end-to-end basis including server administration, performance tuning, hardware and software support and upkeep of the server. The SI also undertake installation/re-installation of all the servers in terms of operating system, databases, clusters, virtualization, Application Server software, latest Software updates, patches etc.
- b. SI provide device/peripherals management, user management, file system management, files management services for the servers.

- c. SI implement operating system security/hardening and application server software level security for the servers.
- d. SI need to manage and use HA (High Availability)-HA (High Availability)- mode-based cluster for emergency service like Dial 100 with contact centre, VMS, CCC and ITMS which should include necessary licenses.
- e. SI would also maintain record for server utilization with respect to hardware and application usage. SI need to take necessary approval from RISL/DOIT&C for any server utilization for any usage whether production, application or staging for better visibility of resources utilization.
- f. SI deploy and upload/configure/host and manage web sites, application software and databases on the servers as per requirement. The SI also coordinate and provide all assistance/services to the purchaser and the users of respective websites/applications for smooth operations and resolution of day-to-day problems.
- g. SI assign rights on servers to different user's w.r.t. FTP, Remote Access etc. as per defined policies.
- h. SI need to use any backup software to backup server OS, database etc for manging any emergency situation where restore of OS/database would be require, SI need to provide this without any additional cost to client.

#### **VIII. Desktop Management Support**

- a. SI maintain and install OS, desktop/client software etc., as and when required and provide services, such as relocation of PCs, or adding or removing accessories attachment or other devices/peripherals.
- b. SI maintain record of all new machines installed, movement of machines within site, changes and configuration of machines.
- c. SI perform any install, move, add or change (IMAC) in CCC.
- d. SI configure print server and resolve all printing problems of users.
- e. SI arrange/download from internet and load drivers of peripherals, as & when need arise.
- f. SI configure/reconfigure client machines to ensure optimum network connectivity and applications/service availability to all users.
- g. SI install, reload, reconfigure any desktop/office automation software, browsers, applications, clients of any application etc., as and when required as per the policy defined for GOR/GOI under usage limitation.
- h. SI re-establish network connectivity and application availability after any hardware/software failure.
- i. In case of hard disk failure, the bidder make all attempts possible to retrieve the data & transfer to the new disk. The new disk should be of same make and have capacity, specification equal to or higher than the original hard disk.
- j. SI make own arrangement to get all software bug fixes, patches, upgrades from internet or the concerned software principals.
- k. SI educate the user about the do's and don'ts in a desktop operation.
- l. SI prevent any user from using the unauthorized and/or unlicensed software.

## **IX. Virus Management Services**

The successful bidder to provide effective control mechanism for virus control on the network, desktops/ laptops and servers with automated online anti- virus signature update facility. Any up- gradation of software such as antivirus signatures etc. in the data centre Shall be responsibility of the bidder during the entire period of FMS.

The SI has to ensure that entire networks, servers & PCs remain virus/worm free.

- a. The PCs, servers, switches, routers and other network devices Shall be protected against and free from viruses/worms. The SI diagnose and rectify any virus problems. Escalating the problem cases to OEM of anti-virus signature database.
- b. The servers should protected and safe guarded against viruses/worms, unauthorized users, spamming etc. and maintain, at all times, an updated anti-virus signature database.
- c. The latest anti-virus updates/patches be required to be made available to all desktops and online antivirus update facility to the desktop have to be created.
- d. The SI have to ensure that entire networks servers & PCs remain virus/worm free.
- e. The SI educate the users about the latest virus through emails, trainings etc and also provide them the guidelines to be proactive to prevent the virus infection.
- f. The SI form a virus handling procedure in consultation with RISL and ensure that all the virus related issues are handled as per the procedure. The procedure include do's and don'ts for the user, the escalation mechanism, the response time, the resolution time etc. as mutually agreed between self and RISL.

## **X. Help Desk Support**

- a. The SI provide 24 x 7 help desk support to CCC (including video surveillance room, data centre, dial 100 control room, ITMS Room, power room and forensic investigation room).
- b. SI log all calls received through any medium viz. telephone/email/in writing/in person, Shall generate a ticket mentioning type of problem, Severity level etc. using helpdesk tool, align concerned FMS team/person, Project OIC(s) and user.
- c. The SI provide various services to different users on demand basis as and when required as mentioned in RFP. The request would be made on help desk by the user through dedicated help line number/specific email account and SI get approval from the officer in charge of project as designated by the purchaser/police department. The resolution time for such services would be as per SLA. However, the purchaser/authorized entity may scale up the severity level depending upon the requirements.
- d. IP Phone facility Shall be provided for Help Desk Services.

## **XI. Data base management services**

- a. SI undertake tasks of managing changes to database schema, disk space, storage, user roles.
- b. SI periodically perform configuration checks and fine tune the databases with respect to performance and proactive identification of potential problems
- c. SI provide performance monitoring, maintenance and tuning of the databases on regular basis as well as proactive health check-ups.
- d. SI manage database upgrade, patch upgrade, patches, updates as and when required with planned minimal downtime with all kind of dependency related to hardware or operating system.
- e. SI provide database performance and health reports to the purchaser as per standards.

- f. SI assign rights on database for different users.
- g. SI upload / create users and tables in the data base.

## **XII. Storage Administration and Management Services**

The SI responsible for the configuration/reconfiguration and management of the storage solution and Shall provide the following services:

- a. SI manage key resources in the Storage solution
- b. SI manage interconnects between key resources in the Storage solution
- c. SI receive asynchronous notification that the configuration of the Storage solution has changed
- d. SI manage the health of key resources in the Storage solution
- e. SI manage the available performance of interconnects in the Storage solution
- f. SI receive asynchronous notification that the performance of the Storage interconnect solution has changed
- g. SI manage the zones being enforced in the Storage solution
- h. SI manage the storage volumes in the Storage solution
- i. SI manage the connectivity and access rights to Storage Volumes in the Storage solution
- j. SI facilitate the purchaser in connecting to the Storage later and provide access rights as required.

## **XIII. Security Administration and Management Services**

The objective of this service is to provide a secure environment in CCC. This service includes:

- a. Addressing the ongoing needs of security management including, but not limited to, monitoring, troubleshooting of various devices/ tools such as virus protection, and vulnerability protection through implementation of proper patches, procedures and rules.
- b. Maintaining an updated knowledge base of all the published security vulnerabilities and virus threats for related software and microcode etc.
- c. Ensuring that latest patches/ workarounds for identified vulnerabilities are applied immediately. Any up gradation of software such as antivirus signatures etc. in data Centre and CCC Shall be the responsibility of the SI during the entire period of FMS. SI enforce update management.
- d. Respond to security breaches or other security incidents by taking corrective measures, providing guidelines to users and coordinate with respective OEM in case a new threat is observed to ensure that workaround /patch is made available for the same.
- e. All communications between client-server, web access, mobile application communication should be secure manner like TLS, HTTPS.
- f. All cameras should be accessible via secure protocol like HTTPS so that no middle-man attack could take place.
- g. Bidder need to ensure safe-to-host certificate validity check for any installed or to be installed applications vulnerabilities, or risk identification for all the application hosted under the project. Also execute remedy to remove those threats based on risk analysis.

- h. Bidder need to ensure if any API gets consumed or developed for application integration then those API should be of best security practice and need to review time to time to avoid any threat and vulnerability exploitation.
- i. Maintenance and management of security devices, including, but not limited to restrict network protocols and traffic, detecting intrusions or unauthorized access to networks, systems, services, applications or data, protecting email gateways, servers, from viruses.
- j. Ensuring that the security policy is maintained and updates to the same are made regularly as per ISO 27001, BS 7799 and BS 15000 guidelines.
- k. Compliance of security regulations defined by Govt or any other Govt. Authorized agency such as CERT-IN etc.

#### **XIV. Management of electrical systems, Air conditioning, safety & security systems and passive networking systems**

All the devices installed in the Data Centre as part of the physical infrastructure are SNMP enabled and can be centrally and remotely monitored and managed on a 24x7x365 basis. Infrastructure management solution is available to facilitate monitoring and management of the Data Centre Infrastructure on one integrated console. The service includes following:

- a. The SI have to make arrangements for secure placement of original manuals, CD's, Backups and Media etc.
- b. In case NOVEC1230 gas is consumed due to any reason (other than mock tests/ trials) it has to be refilled by the SI at its own cost as per standards (certified by OEM) within 2 weeks from the date of release of gas.
- c. The SI ensure proper and regular cleaning of the data centre premises like glass, floor, tapestry, blinds, furnishing material etc.
- d. The SI ensure upkeep of all supplied non-IT equipment like air conditioners, UPS, batteries, power panels, DG sets, safety and security systems, electric & network cabling and furniture.

#### **XV. Electricity and Diesel Management**

The SI responsible for Electricity and Diesel Management for the entire project period. The DG sets Shall be supplied with requisite quantity of diesel for running it for 8 hours. In case of power failure, the SI has to ensure uptime of command and control centre. DCO has to maintain register for monitoring the diesel consumption for the DG set. The register is required to be signed by the officer in-charge for the activity at the CCC.

**XVI. Procedure for monitoring the Diesel consumption for the DG set:**

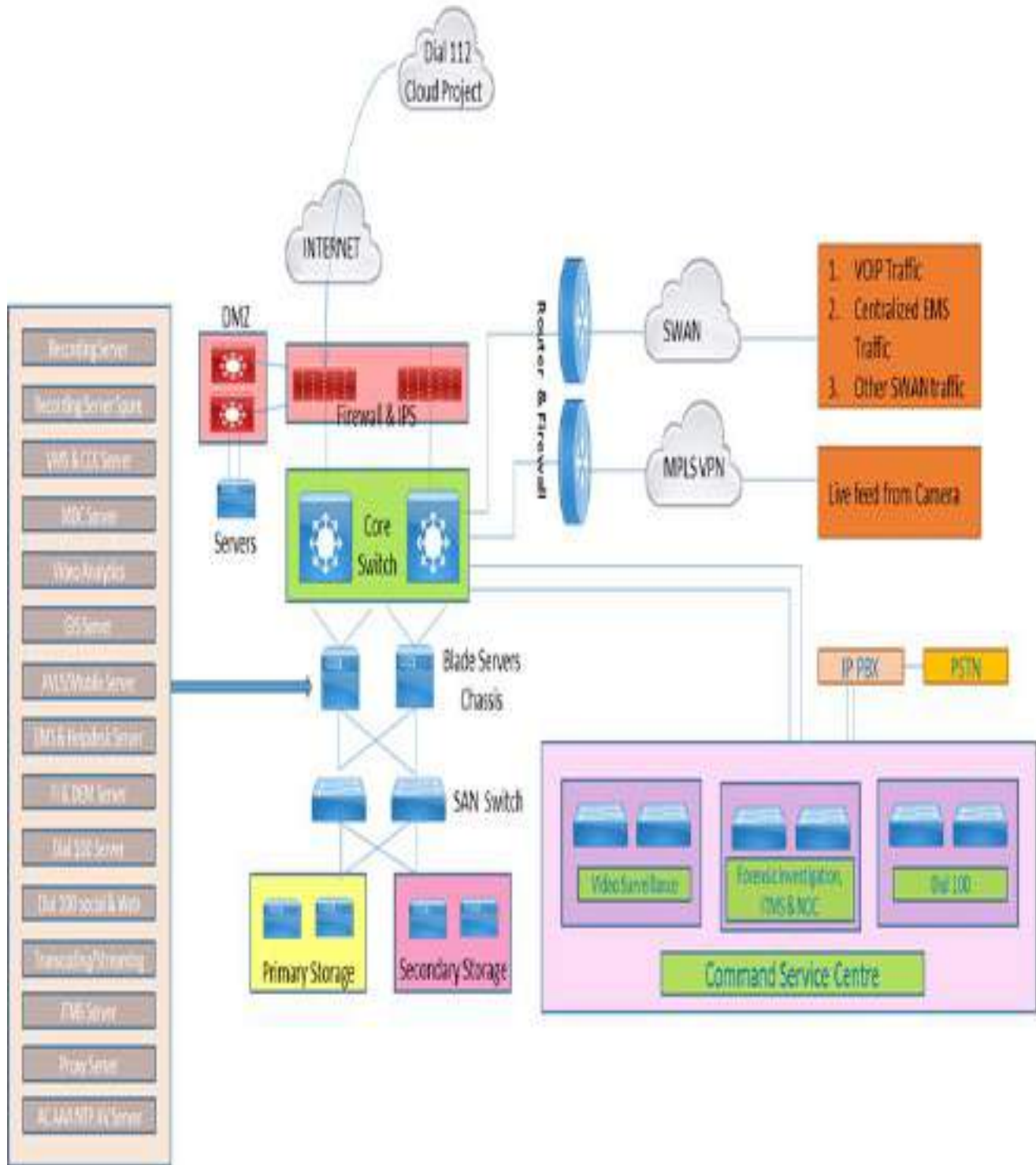
- a. There will be a register maintained and kept with the DCO showing the following columns:

S.No.	Date of Reading taken on tank 1	Fuel Available	Date of fill on tank 1	Total fuel as on date	Signature of RISL/Police department designated Person	Signature of SI
1						
2						

- b. SI has to ensure that at any point of time diesel for 8 hrs running of CCC should be available in the tank of DG set.
- c. The diesel Shall be arranged by SI from petrol pumps so that there is no downtime of data centre including dial 100, forensic investigation room, ITMS Room, OIC room and video surveillance room.
- d. Payment of diesel filled in the tanks during the quarter Shall be made along with agreed quarterly payment.

10) Existing Broad Architecture of City Surveillance Project

# Existing Rajasthan City Surveillance Datacenter Infrastructure Architecture





### 5. Roles & Responsibilities of Stakeholders/ SI (CCC/VMS/Dial 100) operator

- To be fully conversant with the area and their respective camera location for monitoring.
- To monitor and operate the CCTV cameras and associated equipment in the command and control room as per Policy and SOP laid down by Police Department.
- To operate a range of remote call monitoring, alarms and communication facilities contained within the control room.
- To report any incident, suspicious activity, crime observed on live feed from camera or collaborative feed and raises an alarm. He has also to coordinate with respective nearest police station, Ambulance, Fire Brigade (Use of GPS for locating nearest help centre) and any other entity required at incident location and ensure that required assistance has been provided well within time limits.
- To provide Live feed (Real-time feed), if required to concerning police Van's for immediate action and emergency response.
- To maintain accurate records of data recordings and events, using incident recording software.
- To perform any other duties which are equal or similar to the responsibility level & grade of the post and designated by police department.

### Project Deliverables, Milestones & Time Schedule

S. No	Major Milestone	Timeline	Deliverables
1.	O & M for 5 years	F+ 5 years	O & M reports as mentioned below in "Table for O & M reports"

Note: F is the date which will be mentioned in the Work Order is given by department/ tendering authority.

### Table for O & M Reports:

Sr.	Scope of Work	Activity	Deliverable	Timeline
•	Facility Management Services	I. Asset Management Services	List of Hardware/Software with all details as mentioned in Scope of Work under Asset Management Services clause.	Within 10 days after end of the quarter.
•		II. Preventive Maintenance Report	Equipment wise and date wise detailed reports of preventive maintenance services provided during the quarter along with copy of call report. Assessment report of performance and future requirement with respect to the equipment's covered under preventive maintenance.	
•		III. Corrective Maintenance Reports	Equipment wise and date wise detailed and MIS reports of corrective maintenance services provided during the quarter	
•		V. Vendor Management Report	Calls logged with external vendor based clause with required details	

Sr.	Scope of Work	Activity	Deliverable	Timeline
•		VI. Network Management Report	Network up time report of all network devices and network connectivity links/ leased lines via NMS.	
•		VII. Server Management Report	a. updates/upgrades, patches history report b. Server up time report along with logs c. OS details, CPU/Memory/IO ports utilization report. d. user configured for server access with roles details.	
•		VIII. Desktop Management Report	a. OS details, configuration details. b. Installed software details c. USB/Internet access details	
•		IX. Virus Management Services	Anti Virus Server signature update report from Server Last Scan reports for clients	
•		X. Help Desk Support	a. Users details for helpdesk. b. configuration details for severity levels.	
•		XII. Database Management Report	Database details for each application User access details for database Backup details for database Last restore details if applicable.	
•		XIII. Storage Management Report	Storage Free and Consumed user space details. Current utilization reports	
•		XIV. Security Administration	Exception report	
•		XV. Physical Security Services	Attendance Report Visitor Report	
•		XVI. Management of electrical system, AC, Safety and Security system and passive networking	Brief Report for electrical system, AC, Safety and Security system and passive networking with last preventive maintenance details	
•		XVII. Electricity and Diesel Management	Brief Report	
•		XVIII. Service Levels	Service Level Reports :	

Sr.	Scope of Work	Activity	Deliverable	Timeline
			A) Manpower including OEM resources attendance signed from OIC or any mechanism directed by RISL. B) Uptime via NMS/authentic logs wherever possible C) Logged tickets reports from helpdesk tool	
●		XIX. Any other reports as required by purchaser	Customized format	As per requirement

## **6. INSTRUCTION TO BIDDERS (ITB)**

### **1) *Sale of Bidding/ Tender Documents***

- a) The sale of bidding documents Shall be commenced from the date of publication of Notice Inviting Bids (NIB) and Shall be stopped one day prior to the date of opening of Bid. The complete bidding document Shall also be placed on the State Public Procurement Portal and e-Procurement portal. The prospective bidders Shall be permitted to download the bidding document from the websites and pay its price while submitting the Bid to the procuring entity.
- b) The bidding documents Shall be made available to any prospective bidder who pays the price for it in cash or by bank demand draft, banker's cheque.
- c) Bidding documents purchased by Principal of any concern may be used by its authorized sole selling agents/ marketing agents/ distributors/ sub-distributors and authorized dealers or vice versa.

### **2) *Pre-bid Meeting/ Clarifications***

- a) Any prospective bidder may, in writing, seek clarifications from the procuring entity in respect of the bidding documents.
- b) A pre-bid conference is also scheduled by the procuring entity as per the details mentioned in the NIB and to clarify doubts of potential bidders in respect of the procurement and the records of such conference Shall be intimated to all bidders and where applicable, Shall be published on the respective websites.
- c) The period within which the bidders may seek clarifications under (a) above and the period within which the procuring entity Shall respond to such requests for clarifications Shall be as under: -
  - a. Last date of submitting clarifications requests by the bidder: as per NIB
  - b. Response to clarifications by procuring entity: as per NIB
- d) The minutes and response, if any, Shall be provided promptly to all bidders to which the procuring entity provided the bidding documents, so as to enable those bidders to take minutes into account in preparing their bids, and Shall be published on the respective websites.

### **3) *Changes in the Bidding Document***

- a) At any time, prior to the deadline for submission of Bids, the procuring entity may for any reason, whether on its own initiative or as a result of a request for clarification by a bidder, modify the bidding documents by issuing an addendum in accordance with the provisions below.
- b) In case, any modification is made to the bidding document or any clarification is issued which materially affects the terms contained in the bidding document, the procuring entity Shall publish such modification or clarification in the same manner as the publication of the initial bidding document.
- c) In case, a clarification or modification is issued to the bidding document, the procuring entity may, prior to the last date for submission of Bids, extend such time limit in order to allow the bidders sufficient time to take into account the clarification or modification, as the case may be, while submitting their Bids.
- d) Any bidder, who has submitted his Bid in response to the original invitation, Shall have the opportunity to modify or re-submit it, as the case may be, within the period of time originally

allotted or such extended time as may be allowed for submission of Bids, when changes are made to the bidding document by the procuring entity:

- e) Provided that the Bid last submitted or the Bid as modified by the bidder Shall be considered for evaluation.

#### 4) *Period of Validity of Bids*

- a) Bids submitted by the bidders Shall remain valid during the period specified in the NIB/ bidding document. A Bid valid for a shorter period Shall be rejected by the procuring entity as non-responsive Bid.
- b) Prior to the expiry of the period of validity of Bids, the procuring entity, in exceptional circumstances, may request the bidders to extend the bid validity period for an additional specified period of time. A bidder may refuse the request and such refusal Shall be treated as withdrawal of Bid and in such circumstances bid security Shall not be forfeited.
- c) Bidders that agree to an extension of the period of validity of their Bids Shall extend or get extended the period of validity of bid securities submitted by them or submit new bid securities to cover the extended period of validity of their bids. A bidder whose bid security is not extended, or that has not submitted a new bid security, is considered to have refused the request to extend the period of validity of its Bid.

#### 5) *Format and Signing of Bids*

- a) Bidders must submit their bids online at e-Procurement portal i.e., <http://eproc.rajasthan.gov.in>.
- b) All the documents uploaded should be digitally signed with the DSC of authorized signatory.
- c) A Single stage two part/ cover system Shall be followed for the Bid: -
- a. Technical Bid, including fee details, eligibility & technical documents
  - b. Financial Bid
- d) The technical bid Shall consist of the following documents: -

S. No.	Documents Type	Document Format
<b>Fee Details</b>		
1.	Bidding document Fee (Tender Fee)	Proof of submission (PDF)
2.	RISL Processing Fee (e-Procurement)	Instrument/ Proof of submission (PDF)
3.	Bid Security	Instrument/ Proof of submission (PDF)
<b>Eligibility Documents</b>		
4.	Bidder's Authorization Certificate along with copy of PoA/ Board resolution stating that Auth. Signatory can sign the bid/ contract on behalf of the firm.	As per Annexure-4 (PDF)
5.	All the documents mentioned in the "Eligibility Criteria", in support of the eligibility	As per the format mentioned against the respective eligibility criteria clause (PDF)
<b>Technical Documents</b>		
6.	Certificate of Conformity/ No Deviation	As per Annexure-6 (PDF)
7.	Declaration by Bidders	As per Annexure-7 (PDF)
8.	Manufacturer's Authorization Form (MAF) for Refer Annexure – 1 (B)	As per Annexure-8 (Indicative Format) (PDF)
9.	Undertaking on Authenticity of Comp. Equip.	As per Annexure-9 (PDF)

S. No.	Documents Type	Document Format
10.	Technical specifications compliance sheet for all items on Bidder's Letter Head ( <b>Refer Annexure -1 C</b> )	As per format mentioned for Vol-II (PDF)
11.	Bidder's Details	As per Annexure-19 (PDF)

e) Financial bid Shall include the following documents: -

S. No.	Documents Type	Document Format
1.	Financial Bid – Cover Letter	On bidder's letter head duly signed by authorized signatory as per Annexure-10 (PDF)
2.	Financial Bid – Format	As per BoQ (.XLS) format available on e-Procurement portal

f) The bidder should ensure that all the required documents, as mentioned in this bidding document, are submitted along with the Bid and in the prescribed format only. Non-submission of the required documents or submission of the documents in a different format/content may lead to the rejections of the Bid submitted by the bidder.

#### 6) *Cost & Language of Bidding*

- a) The Bidder Shall bear all costs associated with the preparation and submission of its Bid, and the procuring entity Shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- b) The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the procuring entity, Shall be written only in English Language. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English/ Hindi language, in which case, for purposes of interpretation of the Bid, such translation Shall govern.

#### 7) *Alternative/ Multiple Bids*

Alternative/ Multiple Bids shall not be considered at all.

#### 8) *Bid Security*

Every bidder, if not exempted, participating in the procurement process will be required to furnish the bid security as specified in the NIB.

- a) In lieu of bid security, a bid securing declaration Shall be taken from Departments of the State Government, Undertakings, Corporations, Autonomous bodies, Registered Societies and Cooperative Societies which are owned or controlled or managed by the State Government and Government Undertakings of the Central Government.
- b) Bid security instrument or cash receipt of bid security or a bid securing declaration Shall necessarily accompany the technical bid.
- c) Bid security of a bidder lying with the procuring entity in respect of other bids awaiting decision Shall not be adjusted towards bid security for the fresh bids. The bid security originally deposited may, however, be taken into consideration in case bids are re-invited.
- d) The bid security may be given in the form of a banker's cheque or demand draft or bank guarantee, in specified format, of a scheduled bank or deposited through eGRAS. The bid security must remain valid thirty days beyond the original or extended validity period of the bid.

- e) The issuer of the bid security and the confirmer, if any, of the bid security, as well as the form and terms of the bid security, must be acceptable to the procuring entity.
- f) Prior to presenting a submission, a bidder may request the procuring entity to confirm the acceptability of proposed issuer of a bid security or of a proposed confirmer, if required. The procuring entity Shall respond promptly to such a request.
- g) The bank guarantee presented as bid security Shall be got confirmed from the concerned issuing bank. However, the confirmation of the acceptability of a proposed issuer or of any proposed confirmer does not preclude the procuring entity from rejecting the bid security on the ground that the issuer or the confirmer, as the case may be, has become insolvent or has otherwise ceased to be creditworthy.
- h) The bid security of unsuccessful bidders Shall be refunded soon after final acceptance of successful bid and signing of Agreement and submitting performance security.
- i) The Bid security taken from a bidder Shall be forfeited, including the interest, if any, in the following cases, namely: -
  - a. when the bidder withdraws or modifies its bid after opening of bids;
  - b. when the bidder does not execute the agreement, if any, after placement of supply/ work order within the specified period;
  - c. when the bidder fails to commence the service or execute work as per work order within the time specified;
  - d. when the bidder does not deposit the performance security within specified period after the supply/ work order is placed; and
  - e. if the bidder breaches any provision of code of integrity, prescribed for bidders, specified in the bidding document.
- j) Notice will be given to the bidder with reasonable time before bid security deposited is forfeited.
- k) No interest Shall be payable on the bid security.
- l) In case of the successful bidder, the amount of bid security may be adjusted in arriving at the amount of the Performance Security, or refunded if the successful bidder furnishes the full amount of performance security.
- m) The procuring entity Shall promptly return the bid security after the earliest of the following events, namely: -
  - a. the expiry of validity of bid security;
  - b. the execution of agreement for procurement and performance security is furnished by the successful bidder;
  - c. the cancellation of the procurement process; or
  - d. the withdrawal of bid prior to the deadline for presenting bids, unless the bidding documents stipulate that no such withdrawal is permitted.

**9) *Deadline for the submission of Bids***

- a) Bids Shall be received online at e-Procurement portal and up to the time and date specified in the NIB.
- b) Normally, the date of submission and opening of Bids would not be extended. In exceptional circumstances or when the bidding document are required to be substantially modified as a result of discussions in pre-bid meeting/ conference or otherwise and the time with the

prospective bidders for preparation of Bids appears insufficient, the date may be extended by the procuring entity. In such case the publicity of extended time and date shall be given in the manner, as was given at the time of issuing the original NIB and Shall also be placed on the State Public Procurement Portal, if applicable. It would be ensured that after issue of corrigendum, reasonable time is available to the bidders for preparation and submission of their Bids. The procuring entity Shall also publish such modifications in the bidding document in the same manner as the publication of initial bidding document. If, in the office of the Bids receiving and opening authority, the last date of submission or opening of Bids is a non-working day, the Bids Shall be received or opened on the next working day.

#### **10) *Withdrawal, Substitution, and Modification of Bids***

- a) If permitted on e-Procurement portal, a Bidder may withdraw its Bid or re-submit its Bid (technical and/ or financial cover) as per the instructions/ procedure mentioned at e-Procurement website under the section "Bidder's Manual Kit".
- b) Bids withdrawn Shall not be opened and processes further.

#### **11) *Opening of Bids***

- a) The Bids Shall be opened by the bid opening & evaluation committee on the date and time mentioned in the NIB in the presence of the bidders or their authorized representatives who choose to be present.
- b) The committee may co-opt experienced persons in the committee to conduct the process of Bid opening.
- c) The committee Shall prepare a list of the bidders or their representatives attending the opening of Bids and obtain their signatures on the same. The list Shall also contain the representative's name and telephone number and corresponding bidders' names and addresses. The authority letters, if any, brought by the representatives Shall be attached to the list. The list Shall be signed by all the members of Bid opening committee with date and time of opening of the Bids.
- d) All the documents comprising of technical Bid/ cover Shall be opened & downloaded from the e- Procurement website (only for the bidders who have submitted the prescribed fee(s) to RISL).
- e) The committee Shall conduct a preliminary scrutiny of the opened technical Bids to assess the prima-facie responsiveness and ensure that the:
  - a. bid is accompanied by bidding document fee, bid security or bid securing declaration, and processing fee (if applicable);
  - b. bid is valid for the period, specified in the bidding document;
  - c. bid is unconditional and the bidder has agreed to give the required performance security; and
  - d. other conditions, as specified in the bidding document are fulfilled.
  - e. any other information which the committee may consider appropriate.
  - f. No Bid Shall be rejected at the time of Bid opening except the Bids not accompanied with the proof of payment or instrument of the required price of bidding document, processing fee and bid security.
  - g. The Financial Bid cover Shall be kept unopened and Shall be opened later on the date and time intimated to the bidders who qualify in the evaluation of technical Bids.



### ***12) Selection Method:***

The selection method is Least Cost Based Selection (LCBS or L1). Bidder has to quote compulsorily in all items mentioned in bill of material/BoQ, otherwise complete bid will be rejected. One Lowest evaluated technically responsive bidder shall be selected as L1 on cumulative total (Lowest) amount of BOQ as per his financial bid.

### ***13) Clarification of Bids***

- a) To assist in the examination, evaluation, comparison and qualification of the Bids, the bid evaluation committee may, at its discretion, ask any bidder for a clarification regarding its Bid. The committee's request for clarification and the response of the bidder Shall be through the e- Procurement portal.
- b) Any clarification submitted by a bidder with regard to its Bid that is not in response to a request by the committee Shall not be considered.
- c) No change in the prices or substance of the Bid Shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the committee in the evaluation of the financial Bids.
- d) No substantive change to qualification information or to a submission, including changes aimed at making an unqualified bidder, qualified or an unresponsive submission, responsive Shall be sought, offered or permitted.

### ***14) Evaluation & Tabulation of Technical Bids***

#### **a) Determination of Responsiveness**

- a. The bid evaluation committee Shall determine the responsiveness of a Bid on the basis of bidding document and the provisions of pre-qualification/ eligibility criteria of the bidding document.
- b. A responsive Bid is one that meets the requirements of the bidding document without any material deviation, reservation, or omission where: -
  - i. "deviation" is a departure from the requirements specified in the bidding document;
  - ii. "reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and
  - iii. "Omission" is the failure to submit part or all of the information or documentation required in the bidding document.
- c. A material deviation, reservation, or omission is one that,
  - i. if accepted, Shall: -
    1. Affect in any substantial way the scope, quality, or performance of the subject matter of procurement specified in the bidding documents; or
    2. Limits in any substantial way, inconsistent with the bidding documents, the procuring entity's rights or the bidder's obligations under the proposed contract; or
  - ii. if rectified, Shall unfairly affect the competitive position of other bidders presenting responsive Bids.
- d. The bid evaluation committee Shall examine the technical aspects of the Bid in particular, to confirm that all requirements of bidding document have been met without any material deviation, reservation or omission.

- e. The procuring entity Shall regard a Bid as responsive if it conforms to all requirements set out in the bidding document, or it contains minor deviations that do not materially alter or depart from the characteristics, terms, conditions and other requirements set out in the bidding document, or if it contains errors or oversights that can be corrected without touching on the substance of the Bid.

**b) Non-material Non-conformities in Bids**

- a. The bid evaluation committee may waive any non-conformities in the Bid that do not constitute a material deviation, reservation or omission, the Bid Shall be deemed to be substantially responsive.
- b. The bid evaluation committee may request the bidder to submit the necessary information or document like audited statement of accounts/ CA Certificate, Registration Certificate, VAT/ CST clearance certificate, ISO/ CMMi Certificates, etc. within a reasonable period of time. Failure of the bidder to comply with the request may result in the rejection of its Bid.
- c. The bid evaluation committee may rectify non-material nonconformities or omissions on the basis of the information or documentation received from the bidder under (b) above.

**c) Technical Evaluation Criteria**

- a) Bids Shall be evaluated based on the documents submitted as part of technical bid. Technical bid Shall contain all the documents as asked in the clause “Format and signing of Bids”.
- b) Any items/documents asked in tender document if not found technically qualified during technical evaluation of the bid, whole bid will consider as “ technically non complied “ bid. The tendering authority will only consider the financial bid of technically complied bid.

**d) Tabulation of Technical Bids**

- a. If Technical Bids have been invited, they Shall be tabulated by the bid evaluation committee in the form of a comparative statement to evaluate the qualification of the bidders against the criteria for qualification set out in the bidding document.
- b. The members of bid evaluation committee Shall give their recommendations below the table as to which of the bidders have been found to be qualified in evaluation of Technical Bids and sign it.
- c. The number of firms qualified in technical evaluation, if less than three and it is considered necessary by the procuring entity to continue with the procurement process, reasons Shall be recorded in writing and included in the record of the procurement proceedings.
- d. The bidders who qualified in the technical evaluation Shall be informed in writing about the date, time and place of opening of their financial Bids

***15) Evaluation & Tabulation of Financial Bids***

Subject to the provisions of “Acceptance of Successful Bid and Award of Contract” below, the procuring entity Shall take following actions for evaluation of financial Bids: -

- a) For single part/ cover Bid system, where Bid is received in single cover along with requisite bid security, processing fee or user charges and price of bidding documents within specified time, it Shall be considered for financial evaluation by the Bids evaluation committee.

OR

- For two part/ cover Bid system, the financial Bids of the bidders who qualified in technical evaluation Shall be opened online at the notified time, date and place by the bid evaluation committee in the presence of the bidders or their representatives who choose to be present.
- b) the process of opening of the financial Bids Shall be similar to that of technical Bids.
  - c) the names of the bidders, the rates given by them, and conditions put, if any, Shall be read out and recorded;
  - d) conditional Bids are liable to be rejected.
  - e) the evaluation Shall include all costs and all taxes and duties applicable to the bidder as per law of the Central/ State Government/ Local Authorities, and the evaluation criteria specified in the bidding documents Shall only be applied;
  - f) the offers Shall be evaluated and marked L1, L2, L3 etc. L1 being the lowest offer and then others in ascending order in case price is the only criteria, or evaluated and marked H1, H2, H3 etc. in descending order.
  - g) the bid evaluation committee Shall prepare a comparative statement in tabular form in accordance with rules along with its report on evaluation of financial Bids and recommend the lowest offer for acceptance to the procuring entity, as price is the only criterion.
  - h) The members of bids evaluation committee Shall give their recommendations below the table regarding lowest Bid sign it.
  - i) it Shall be ensured that the offer recommended for sanction is justifiable looking to the prevailing market rates of the goods, works or service required to be procured.

***16) Dividing quantities among more than one bidder at the time of award***

- a) Up to two bidders Shall be selected for the award of contract. After determination of overall lowest value bid (L1) for all cities, all the responsive and eligible bidder(s) Shall be asked to match the (L1) bid in ascending order of quoted bid value (L2, L3, L4....). The purchaser Shall issue the work order(s) as follows
  - Best Value Bidder (L1) – 4 Division (including Jaipur which is mandatory)
  - Second Bidder (After Matching L1) - 3 Division (including Jodhpur which is mandatory)
- b) In case no other eligible and responsive bidder matches the best value (L1) bid, work order Shall be awarded to the best value (L1) bidder only.

***17) Correction of Arithmetic Errors in Financial Bids***

The bid evaluation committee Shall correct arithmetical errors in substantially responsive Bids, on the following basis, namely: -

- a) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price Shall prevail and the total price Shall be corrected, unless in the opinion of the bid evaluation committee there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted Shall govern and the unit price Shall be corrected.
- b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals Shall prevail and the total Shall be corrected; and
- c) if there is a discrepancy between words and figures, the amount in words Shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures Shall prevail subject to clause (a) and (b) above.

**18) Price/ purchase preference in evaluation**

Price and/ or purchase preference notified by the State Government (GoR) and as mentioned in the bidding document shall be considered in the evaluation of Bids and award of contract.

**19) Negotiations**

- a) Except in case of procurement by method of single source procurement or procurement by competitive negotiations, to the extent possible, no negotiations shall be conducted after the pre-bid stage. All clarifications needed to be sought shall be sought in the pre-bid stage itself.
- b) Negotiations may, however, be undertaken only with the lowest or most advantageous bidder when the rates are considered to be much higher than the prevailing market rates.
- c) The bid evaluation committee shall have full powers to undertake negotiations. Detailed reasons and results of negotiations shall be recorded in the proceedings.
- d) The lowest or most advantageous bidder shall be informed in writing either through messenger or by registered letter and e-mail (if available). A minimum time of seven days shall be given for calling negotiations. In case of urgency the bid evaluation committee, after recording reasons, may reduce the time, provided the lowest or most advantageous bidder has received the intimation and consented to regarding holding of negotiations.
- e) Negotiations shall not make the original offer made by the bidder inoperative. The bid evaluation committee shall have option to consider the original offer in case the bidder decides to increase rates originally quoted or imposes any new terms or conditions.
- f) In case of non-satisfactory achievement of rates from lowest or most advantageous bidder, the bid evaluation committee may choose to make a written counter offer to the lowest or most advantageous bidder and if this is not accepted by him, the committee may decide to reject and re-invite Bids or to make the same counter-offer first to the second lowest or most advantageous bidder, then to the third lowest or most advantageous bidder and so on in the order of their initial standing and work/ supply order be awarded to the bidder who accepts the counter-offer. This procedure would be used in exceptional cases only.
- g) In case the rates even after the negotiations are considered very high, fresh Bids shall be invited.

**20) Exclusion of Bids/ Disqualification**

- a) A procuring entity shall exclude/ disqualify a Bid, if: -
  - a. the information submitted, concerning the qualifications of the bidder, was false or constituted a misrepresentation; or
  - b. the information submitted, concerning the qualifications of the bidder, was materially inaccurate or incomplete; and
  - c. the bidder is not qualified as per pre-qualification/ eligibility criteria mentioned in the bidding document;
  - d. the Bid materially departs from the requirements specified in the bidding document or it contains false information;
  - e. the bidder, submitting the Bid, his agent or any one acting on his behalf, gave or agreed to give, to any officer or employee of the procuring entity or other governmental authority a gratification in any form, or any other thing of value, so as to unduly influence the procurement process;
  - f. a bidder, in the opinion of the procuring entity, has a conflict of interest materially affecting fair competition

- b) A Bid Shall be excluded/ disqualified as soon as the cause for its exclusion/ disqualification is discovered.
- c) Every decision of a procuring entity to exclude a Bid Shall be for reasons to be recorded in writing and Shall be: -
  - a. communicated to the concerned bidder in writing;
  - b. published on the State Public Procurement Portal, if applicable.

### **21) Lack of competition**

- a) A situation may arise where, if after evaluation of Bids, the bid evaluation committee may end-up with one responsive Bid only. In such situation, the bid evaluation committee would check as to whether while floating the NIB all necessary requirements to encourage competition like standard bid conditions, industry friendly specifications, wide publicity, sufficient time for formulation of Bids, etc. were fulfilled. If not, the NIB would be re-floated after rectifying deficiencies. The bid process Shall be considered valid even if there is one responsive Bid, provided that: -
  - a. the Bid is technically qualified;
  - b. the price quoted by the bidder is assessed to be reasonable;
  - c. the Bid is unconditional and complete in all respects;
  - d. there are no obvious indicators of cartelization amongst bidders; and
  - e. the bidder is qualified as per the provisions of pre-qualification/ eligibility criteria in the bidding document
- b) The bid evaluation committee Shall prepare a justification note for approval by the next higher authority of the procuring entity, with the concurrence of the account's member.
- c) In case of dissent by any member of bid evaluation committee, the next higher authority in delegation of financial powers Shall decide as to whether to sanction the single Bid or re-invite Bids after recording reasons.
- d) If a decision to re-invite the Bids is taken, market assessment Shall be carried out for estimation of market depth, eligibility criteria and cost estimate.

### **22) Acceptance of the successful Bid and award of contract**

- a) The procuring entity after considering the recommendations of the bid evaluation committee and the conditions of Bid, if any, financial implications, trials, sample testing and test reports, etc., Shall accept or reject the successful Bid. If any member of the bid evaluation committee, has disagreed or given its note of dissent, the matter Shall be referred to the next higher authority, as per delegation of financial powers, for decision.
- b) Decision on Bids centre be taken within original validity period of Bids and time period allowed to procuring entity for taking decision. If the decision is not taken within the original validity period or time limit allowed for taking decision, the matter centre be referred to the next higher authority in delegation of financial powers for decision.
- c) Before award of the contract, the procuring entity centre ensure that the price of successful Bid is reasonable and consistent with the required quality.
- d) A Bid Shall be treated as successful only after the competent authority has approved the procurement in terms of that Bid.
- e) The procuring entity Shall award the contract to the bidder whose offer has been determined to be the lowest or most advantageous in accordance with the evaluation criteria set out in the

bidding document and if the bidder has been determined to be qualified to perform the contract satisfactorily on the basis of qualification criteria fixed for the bidders in the bidding document for the subject matter of procurement.

- f) Prior to the expiration of the period of bid validity, the procuring entity Shall inform the successful bidder, in writing, that its Bid has been accepted.
- g) As soon as a Bid is accepted by the competent authority, its written intimation Shall be sent to the concerned bidder by registered post or email and asked to execute an agreement in the format given in the bidding documents on a non-judicial stamp of requisite value and deposit the amount of performance security or a performance security declaration, if applicable, within a period specified in the bidding documents or where the period is not specified in the bidding documents then within fifteen days from the date on which the letter of acceptance or letter of intent is dispatched to the bidder.
- h) If the issuance of formal letter of acceptance is likely to take time, in the meanwhile a Letter of Intent (LOI) may be sent to the bidder. The acceptance of an offer is complete as soon as the letter of acceptance or letter of intent is posted and/ or sent by email (if available) to the address of the bidder given in the bidding document. Until a formal contract is executed, the letter of acceptance or LOI Shall constitute a binding contract.
- i) The bid security of the bidders whose Bids could not be accepted Shall be refunded soon after the contract with the successful bidder is signed and its performance security is obtained.

### ***23) Information and publication of award***

Information of award of contract Shall be communicated to all participating bidders and published on the respective website(s) as specified in NIB.

### ***24) Procuring entity's right to accept or reject any or all Bids***

The Procuring entity reserves the right to accept or reject any Bid, and to annul (cancel) the bidding process and reject all Bids at any time prior to award of contract, without thereby incurring any liability to the bidders.

### ***25) Right to vary quantity***

- a) If the procuring entity does not procure any subject matter of procurement or procures less than the quantity specified in the bidding documents due to change in circumstances, the bidder Shall not be entitled for any claim or compensation.
- b) Repeat orders for extra items or additional quantities may be placed on the rates and conditions given in the contract. Delivery or completion period may also be proportionately increased. The limits of repeat order Shall be as under: -
  - a. 50% of the quantity of the individual items and 50% of the value of original contract in case of works; and
  - b. 50% of the value of goods or services of the original contract.

### ***26) Performance Security***

- a) Prior to execution of agreement, Performance security shall be solicited from all successful bidders except the departments of the State Government and undertakings, corporations, autonomous bodies, registered societies, co-operative societies which are owned or controlled or managed by the State Government and undertakings of the Central Government. However, a performance security declaration shall be taken from them. The

State Government may relax the provision of performance security in particular procurement or any class of procurement.

- b) The amount of performance security shall be 2.5%, of the work order value. In case of Small Scale Industries (SSI) of Rajasthan , it shall be 0.5% ( In case Bidder is the lead bidder) of the work order value, other than SSI, whose cases are pending before the Board of Industrial and Financial Reconstruction (BIFR), it shall be 1% of work order value.
- c) The bid security for the successful/selected bidders shall be converted in to performance security for the contract period however during the contract period, if the cumulative performance security against the work order placed to the selected bidder exceeds the deposited performance security, selected bidder will furnish additional security above the deposited amount in the form of Bank Guarantee of any scheduled/ nationalized/ commercial bank drawn in the name of Managing Director, RISL with validity beyond three months of contract period for the work order. After successful completion of the work order the additional performance security will be refunded to the bidder. If the bidder fails to submit the additional performance security within the specified period, as per work order. The work order shall be cancelled and the deposited bid/performance security may be forfeited.
- d) An Additional Performance Security shall also be taken from the successful bidder in case of unbalanced bid. The Additional Performance Security shall be equal to fifty percent of Unbalanced Bid Amount. The Additional Performance Security shall be deposited in lump sum by the successful bidder before execution of Agreement. The Additional Performance Security shall be deposited through e-Grass, Demand Draft, Banker's Cheque, Government Securities or Bank Guarantee.
- e) The Additional Performance Security shall be refunded to the bidder after satisfactory completion of the entire work. The Additional Performance Security shall be forfeited by the Procuring Entity when work is not completed within stipulated period by the bidder.
- f) Performance security shall be furnished in any one of the following forms:
  - a. deposit through eGRAS;
  - b. Bank Draft or Banker's Cheque of a scheduled bank;
  - c. National Savings Certificates and any other script/ instrument under National Savings Schemes for promotion of small savings issued by a Post Office in Rajasthan, if the same can be pledged under the relevant rules. They shall be accepted at their surrender value at the time of bid and formally transferred in the name of procuring entity with the approval of Head Post Master;
  - d. Bank guarantee/s of a scheduled bank. It shall be got verified from the issuing bank. Other conditions regarding bank guarantee shall be same as mentioned in the bidding document for bid security;
  - e. Fixed Deposit Receipt (FDR) of a scheduled bank. It shall be in the name of procuring entity on account of bidder and discharged by the bidder in advance. The procuring entity shall ensure before accepting the FDR that the bidder furnishes an undertaking from the bank to make payment/ premature payment of the FDR on demand to the procuring entity without requirement of consent of the bidder concerned. In the event of forfeiture of the performance security, the Fixed Deposit shall be forfeited along with interest earned on such Fixed Deposit.
- g) Performance security furnished in the form specified shall remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the bidder, including warranty obligations and maintenance and defect liability period.

- h) Forfeiture of Security Deposit: Security amount in full or part may be forfeited, including interest, if any, in the following cases:-
  - a) When any terms and condition of the contract is breached.
  - b) When the bidder fails to make complete supply satisfactorily.
  - c) If the bidder breaches any provision of code of integrity, prescribed for bidders, specified in the bidding document.
- i) Notice will be given to the bidder with reasonable time before PSD deposited is forfeited.
- j) No interest shall be payable on the PSD.

### **27) Execution of agreement**

- a) A procurement contract Shall come into force from the date on which the agreement is signed.
- b) The successful bidder Shall sign the procurement contract within 15 days from the date on which the letter of acceptance or letter of intent is dispatched to the successful bidder.
- c) If the bidder, who's Bid has been accepted, fails to sign a written procurement contract or fails to furnish the required performance security within specified period, the procuring entity Shall take action against the successful bidder as per the provisions of the bidding document and Act. The procuring entity may, in such case, cancel the procurement process or if it deems fit, offer for acceptance the rates of lowest.
- d) The bidder will be required to execute the agreement on a non-judicial stamp of specified value at its cost and to be purchase from anywhere in Rajasthan only.

### **28) Confidentiality**

- a) Notwithstanding anything contained in this bidding document but subject to the provisions of any other law for the time being in force providing for disclosure of information, a procuring entity Shall not disclose any information if such disclosure, in its opinion, is likely to: -
  - a. impede enforcement of any law;
  - b. affect the security or strategic interests of India;
  - c. affect the intellectual property rights or legitimate commercial interests of bidders;
  - d. affect the legitimate commercial interests of the procuring entity in situations that may include when the procurement relates to a project in which the procuring entity is to make a competitive bid, or the intellectual property rights of the procuring entity.
- b) The procuring entity Shall treat all communications with bidders related to the procurement process in such manner as to avoid their disclosure to competing bidders or to any other person not authorized to have access to such information.
- c) The procuring entity may impose on bidders and sub-contractors, if there are any for fulfilling the terms of the procurement contract, conditions aimed at protecting information, the disclosure of which violates (a) above.
- d) In addition to the restrictions specified above, the procuring entity, while procuring a subject matter of such nature which requires the procuring entity to maintain confidentiality, may impose condition for protecting confidentiality of such information.

### **29) Cancellation of procurement process**

- a) If any procurement process has been cancelled, it Shall not be reopened but it Shall not prevent the procuring entity from initiating a new procurement process for the same subject matter of procurement, if required.



- b) A procuring entity may, for reasons to be recorded in writing, cancel the process of procurement initiated by it -
  - a. at any time prior to the acceptance of the successful Bid; or
  - b. after the successful Bid is accepted in accordance with (d) and (e) below.
- c) The procuring entity Shall not open any bids or proposals after taking a decision to cancel the procurement and Shall return such unopened bids or proposals.
- d) The decision of the procuring entity to cancel the procurement and reasons for such decision Shall be immediately communicated to all bidders that participated in the procurement process.
- e) If the bidder who's Bid has been accepted as successful fails to sign any written procurement contract as required, or fails to provide any required security for the performance of the contract, the procuring entity may cancel the procurement process.
- f) If a bidder is convicted of any offence under the Act, the procuring entity may: -
  - a. cancel the relevant procurement process if the Bid of the convicted bidder has been declared as successful but no procurement contract has been entered into;
  - b. rescind (cancel) the relevant contract or forfeit the payment of all or a part of the contract value if the procurement contract has been entered into between the procuring entity and the convicted bidder.

### ***30) Code of Integrity for Bidders***

- a) No person participating in a procurement process Shall act in contravention of the code of integrity prescribed by the State Government.
- b) The code of integrity includes provisions for: -
  - a. Prohibiting
    - i. any offer, solicitation or acceptance of any bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process;
    - ii. any omission, including a misrepresentation that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;
    - iii. any collusion, bid rigging or anti-competitive behaviour to impair the transparency, fairness and progress of the procurement process;
    - iv. improper use of information shared between the procuring entity and the bidders with an intent to gain unfair advantage in the procurement process or for personal gain;
    - v. any financial or business transactions between the bidder and any officer or employee of the procuring entity;
    - vi. any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;
    - vii. any obstruction of any investigation or audit of a procurement process;
  - b. disclosure of conflict of interest;
  - c. disclosure by the bidder of any previous transgressions with any entity in India or any other country during the last three years or of any debarment by any other procuring entity.
- c) Without prejudice to the provisions below, in case of any breach of the code of integrity by a bidder or prospective bidder, as the case may be, the procuring entity may take appropriate measures including: -
  - a. exclusion of the bidder from the procurement process;

- b. calling-off of pre-contract negotiations and forfeiture or encashment of bid security;
- c. forfeiture or encashment of any other security or bond relating to the procurement;
- d. recovery of payments made by the procuring entity along with interest thereon at bank rate;
- e. cancellation of the relevant contract and recovery of compensation for loss incurred by the procuring entity;
- f. debarment of the bidder from participation in future procurements of the procuring entity for a period not exceeding three years.

### ***31) Interference with Procurement Process***

A bidder, who: -

- a) withdraws from the procurement process after opening of financial bids;
- b) withdraws from the procurement process after being declared the successful bidder;
- c) fails to enter into procurement contract after being declared the successful bidder;
- d) fails to provide performance security or any other document or security required in terms of the bidding documents after being declared the successful bidder, without valid grounds,

Shall, in addition to the recourse available in the bidding document or the contract, be punished with fine which may extend to fifty lakh rupees or ten per cent of the assessed value of procurement, whichever is less.

### ***32) Appeals***

- a) Subject to "Appeal not to lie in certain cases" below, if any bidder or prospective bidder is aggrieved that any decision, action or omission of the procuring entity is in contravention to the provisions of the Act or the rules or guidelines issued thereunder, he may file an appeal to such officer of the procuring entity, as may be designated by it for the purpose, within a period of 10 days from the date of such decision or action, omission, as the case may be, clearly giving the specific ground or grounds on which he feels aggrieved:
  - a. Provided that after the declaration of a bidder as successful in terms of "Award of Contract", the appeal may be filed only by a bidder who has participated in procurement proceedings:
  - b. Provided further that in case a procuring entity evaluates the technical Bid before the opening of the financial Bid, an appeal related to the matter of financial Bid may be filed only by a bidder whose technical Bid is found to be acceptable.
- b) The officer to whom an appeal is filed under (a) above Shall deal with the appeal as expeditiously as possible and Shall endeavor to dispose it of within 30 days from the date of filing of the appeal.
- c) If the officer designated under (a) above fails to dispose of the appeal filed under that subsection within the period specified in (c) above, or if the bidder or prospective bidder or the procuring entity is aggrieved by the order passed, the bidder or prospective bidder or the procuring entity, as the case may be, may file a second appeal to an officer or authority designated by the State Government in this behalf within 15 days from the expiry of the period specified in (c) above or of the date of receipt of the order passed under (b) above, as the case may be.
- d) The officer or authority to which an appeal is filed under (c) above Shall deal with the appeal as expeditiously as possible and centre endeavour to dispose it of within 30 days from the date of filing of the appeal:

- e) The officer or authority to which an appeal may be filed under (a) or (d) above Shall be : First Appellate Authority: Secretary, IT&C, GoR  
Second Appellate Authority: Principal Secretary, Finance Department, GoR
- f) Form of Appeal:
- a. Every appeal under (a) and (c) above Shall be as per Annexure-15 along with as many copies as there are respondents in the appeal.
  - b. Every appeal Shall be accompanied by an order appealed against, if any, affidavit verifying the facts stated in the appeal and proof of payment of fee.
  - c. Every appeal may be presented to First Appellate Authority or Second Appellate Authority, as the case may be, in person or through registered post or authorized representative.
- g) Fee for Appeal: Fee for filing appeal:
- a. Fee for first appeal Shall be rupees two thousand five hundred and for second appeal Shall be rupees ten thousand, which Shall be non-refundable.
  - b. The fee Shall be paid in the form of bank demand draft or banker's cheque of a Scheduled Bank payable in the name of Appellate Authority concerned.
- h) Procedure for disposal of appeal:
- a. The First Appellate Authority or Second Appellate Authority, as the case may be, upon filing of appeal, Shall issue notice accompanied by copy of appeal, affidavit and documents, if any, to the respondents and fix date of hearing.
  - b. On the date fixed for hearing, the First Appellate Authority or Second Appellate Authority, as the case may be, Shall:-
    - i. hear all the parties to appeal present before him; and
    - ii. peruse or inspect documents, relevant records or copies thereof relating to the matter.
- c. After hearing the parties, perusal or inspection of documents and relevant records or copies thereof relating to the matter, the Appellate Authority concerned Shall pass an order in writing and provide the copy of order to the parties to appeal free of cost.
- d. The order passed under (c) Shall also be placed on the State Public Procurement Portal.
- i. No information which would impair the protection of essential security interests of India, or impede the enforcement of law or fair competition, or prejudice the legitimate commercial interests of the bidder or the procuring entity, Shall be disclosed in a proceeding under an appeal.

### ***33) Stay of procurement proceedings***

While hearing of an appeal, the officer or authority hearing the appeal may, on an application made in this behalf and after affording a reasonable opportunity of hearing to the parties concerned, stay the procurement proceedings pending disposal of the appeal, if he, or it, is satisfied that failure to do so is likely to lead to miscarriage of justice.

### ***34) Vexatious Appeals & Complaints***

Whoever intentionally files any vexatious, frivolous or malicious appeal or complaint under the "The Rajasthan Transparency Public Procurement Act 2012", with the intention of delaying or defeating any procurement or causing loss to any procuring entity or any other bidder, Shall be punished with fine which may extend to twenty lakh rupees or five per cent of the value of procurement, whichever is less.

### **35) Offenses by Firms/ Companies**

- a) Where an offence under “The Rajasthan Transparency Public Procurement Act 2012” has been committed by a company, every person who at the time the offence was committed was in charge of and was responsible to the company for the conduct of the business of the company, as well as the company, Shall be deemed to be guilty of having committed the offence and Shall be liable to be proceeded against and punished accordingly:  
Provided that nothing contained in this sub-section Shall render any such person liable for any punishment if he proves that the offence was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence.
- b) Notwithstanding anything contained in (a) above, where an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer Shall also be deemed to be guilty of having committed such offence and Shall be liable to be proceeded against and punished accordingly.
- c) For the purpose of this section-
- a) "company" means a body corporate and includes a limited liability partnership, firm, registered society or co- operative society, trust or other association of individuals; and
  - b) "director" in relation to a limited liability partnership or firm, means a partner in the firm.
- d) Abetment of certain offenses: Whoever abets an offence punishable under this Act, whether or not that offence is committed in consequence of that abetment, Shall be punished with the punishment provided for the offence.

### **36) Debarment from Bidding**

- a) A bidder Shall be debarred by the State Government if he has been convicted of an offence
- a. under the Prevention of Corruption Act, 1988 (Central Act No. 49 of 1988); or
  - b. under the Indian Penal Code, 1860 (Central Act No. 45 of 1860) or any other law for the time being in force, for causing any loss of life or property or causing a threat to public health as part of execution of a public procurement contract.
- b) A bidder debarred under (a) above Shall not be eligible to participate in a procurement process of any procuring entity for a period not exceeding three years commencing from the date on which he was debarred.
- c) If a procuring entity finds that a bidder has breached the code of integrity prescribed in terms of “Code of Integrity for bidders” above, it may debar the bidder for a period not exceeding three years.
- d) Where the entire bid security or the entire performance security or any substitute thereof, as the case may be, of a bidder has been forfeited by a procuring entity in respect of any procurement process or procurement contract, the bidder may be debarred from participating in any procurement process undertaken by the procuring entity for a period not exceeding three years.
- e) The State Government or a procuring entity, as the case may be, Shall not debar a bidder under this section unless such bidder has been given a reasonable opportunity of being heard.

### **37) Monitoring of Contract**

- a) An officer or a committee of officers named Contract Monitoring Committee (CMC) may be nominated by procuring entity to monitor the progress of the contract during its delivery period.
- b) During the delivery period the CMC Shall keep a watch on the progress of the contract and Shall ensure that quantity of goods and service delivery is in proportion to the total delivery period given, if it is a severable contract, in which the delivery of the goods and service is to be obtained continuously or is batched. If the entire quantity of goods and service is to be delivered in the form of completed work or entire contract like fabrication work, the process of completion of work may be watched and inspections of the selected bidder's premises where the work is being completed may be inspected.
- c) If delay in delivery of goods and service is observed a performance notice would be given to the selected bidder to speed up the delivery.
- d) Any change in the constitution of the firm, etc. Shall be notified forth with by the contractor in writing to the procuring entity and such change Shall not relieve any former member of the firm, etc., from any liability under the contract.
- e) No new partner/ partners Shall be accepted in the firm by the selected bidder in respect of the contract unless he/ they agree to abide by all its terms, conditions and deposits with the procuring entity through a written agreement to this effect. The bidder's receipt for acknowledgement or that of any partners subsequently accepted as above Shall bind all of them and will be sufficient discharge for any of the purpose of the contract.
- f) The selected bidder Shall not assign or sub-let his contract or any substantial part thereof to any other agency without the permission of procuring entity.

### **38) Stamp Duty**

Stamp duty applicable as per the provision of Rajasthan Stamp Act, 1998 and the latest Notification of Finance Department, Government of Rajasthan.

### **39) Limitation of Liability**

a) Neither party shall be liable to the other party for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier/ selected bidder to pay liquidated damages to the Purchaser; and

b) The aggregate liability of the supplier/ selected bidder to the Purchaser, whether under the Contract, in tort, or otherwise, shall not exceed the total contract value/amount/charges paid to the Supplier/ selected bidder until the time such claim was brought about, provided that this limitation shall not apply; i) to any obligation of the supplier/ selected bidder to indemnify the Purchaser with respect to patent infringement, and ii) any damages payable due to the Gross Negligence or Wilful Misconduct of the Supplier/selected bidder. For the purpose of this clause, Gross Negligence or Wilful Misconduct shall mean;

"Gross Negligence" means any act or failure to act by a Party which was in reckless disregard of or gross indifference to the obligations of the Party under the Contract and which causes harmful consequences to life, personal safety or real property of the other Party which such Party knew, or would have known if it was acting as a reasonable person, would result from such act or failure to act. Notwithstanding the foregoing, Gross Negligence shall not include any action taken in good faith for the safeguard of life or property or a mistake made in good

faith. "Wilful Misconduct" means an intentional disregard of any provision of this Contract which a Party knew or should have known if it was acting as a reasonable person, would result in harmful consequences to life, personal safety or real property of the other Party but shall not include any error of judgment or mistake made in good faith. The above provision does not limit either Parties rights provided under applicable laws of Govt. of India.

## 7. GENERAL TERMS AND CONDITIONS OF TENDER & CONTRACT

Bidders should read these conditions carefully and comply strictly while sending their bids.

### Definitions

For the purpose of clarity, the following words and expressions Shall have the meanings hereby assigned to them: -

- a) "Contract" means the Agreement entered into between the Purchaser and the successful/ selected bidder, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- b) "Contract Documents" means the documents listed in the Agreement, including any amendments thereto.
- c) "Contract Price" means the price payable to the successful/ selected bidder as specified in the Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
- d) "Day" means a calendar day.
- e) "Delivery" means the transfer of the Goods from the successful/ selected bidder to the Purchaser in accordance with the terms and conditions set forth in the Contract.
- f) "Completion" means the fulfilment of the related services by the successful/ selected bidder in accordance with the terms and conditions set forth in the Contract.
- g) "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the successful/ selected bidder is required to supply to the Purchaser under the Contract.
- h) "Purchaser" means the entity purchasing the Goods and related services, as specified in the bidding document.
- i) "Related Services" means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other similar obligations of the successful/ selected bidder under the Contract.
- j) "Subcontractor" means any natural person, private or government entity, or a combination of the above, including its legal successors or permitted assigns, to whom any part of the Goods to be supplied or execution of any part of the related services is subcontracted by the successful/ selected bidder.
- k) "Supplier/ Successful or Selected bidder" means the person, private or government entity, or a combination of the above, whose Bid to perform the Contract has been accepted by the Purchaser and is named as such in the Agreement, and includes the legal successors or permitted assigns of the successful/ selected bidder.
- l) "The Site," where applicable, means the designated project place(s) named in the bidding document.

Note: The bidder Shall be deemed to have carefully examined the conditions, specifications, size, make and drawings, etc., of the goods to be supplied and related services to be rendered. If the bidder has any doubts as to the meaning of any portion of these conditions or of the specification,

drawing, etc., he Shall, before submitting the Bid and signing the contract refer the same to the procuring entity and get clarifications.

### **1) Contract Documents**

Subject to the order of precedence set forth in the Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory.

### **2) Interpretation**

- a) If the context so requires it, singular means plural and vice versa.
- b) Entire Agreement: The Contract constitutes the entire agreement between the Purchaser and the Supplier/ Selected bidder and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.
- c) Amendment: No amendment or other variation of the Contract Shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.
- d) Non-waiver: Subject to the condition (f) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other Shall prejudice, affect, or restrict the rights of that party under the Contract, neither Shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- e) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.
- f) Severability: If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability Shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

### **3) Language**

- a) The Contract as well as all correspondence and documents relating to the Contract exchanged by the successful/ selected bidder and the Purchaser, Shall be written in English language only. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the special conditions of the contract, in which case, for purposes of interpretation of the Contract, this translation Shall govern.
- b) The successful/ selected bidder Shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.

### **4) Joint Venture, Consortium or Association**

- a) Unless otherwise specified in the special conditions of the contract, if the Supplier/ Bidder is a joint venture, consortium, or association, all of the parties Shall be jointly and severally liable to the Purchaser for the fulfilment of the provisions of the contract and Shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association.
- b) The composition or the constitution of the joint venture, consortium, or association Shall not be altered without the prior consent of the purchaser.

- c) Any change in the constitution of the firm, etc. Shall be notified forth with by the contractor in writing to the purchase officer and such change Shall not relieve any former member of the firm, etc., from any liability under the contract.
- d) No new partner/ partners Shall be accepted in the firm by the contractor in respect of the contract unless he/they agree to abide by all its terms, conditions and deposits with the purchase officer a written agreement to this effect. The contractor's receipt for acknowledgement or that of any partners subsequently accepted as above Shall bind all of them and will be sufficient discharge for any of the purpose of the contract.
- e) No new consortium agreement Shall be allowed during the project period.
- f) In Consortium, all the members Shall be equally responsible to complete the project as per their roles & responsibilities; however, Lead partner Shall give an undertaking for the successful completion of the overall project. In case of any issues, Lead partner is the responsible person for all the penalties.
- g) The lead bidder is required to do majority (>50%) of the work. However, the lead bidder and consortium partner is jointly and severely liable for the entire scope of work and risks involved thereof.
- h) The non-lead bidder (consortium partner) is liable for the scope of work for which they are responsible along with the lead bidder.
- i) Any change in the consortium at a later date will not be allowed without prior permission from the tendering authority/ purchaser.

#### **5) *Eligible Goods and Related Services***

- a) For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, transportation, supply, installation, integration, testing, commissioning, training, and initial maintenance.
- b) All articles/ goods being bid, other than those marked in the Bill of Material (BoM) should be the ones which are produced in volume and are used by a large number of users in India/ abroad. All products quoted by the successful/ selected bidder must be associated with specific make and model number, item code and names and with printed literature describing configuration and functionality. Any deviation from the printed specifications should be clearly mentioned in the offer document by the bidder/ supplier. Also, the bidder is to quote/ propose only one make/ model against the respective item.
- c) The bidder should also have its direct representation in India in terms of registered office for at least past 3 years. The presence through any Distribution/ System Integration partner agreement will not be accepted.
- d) Bidder must quote products in accordance with above clause "Eligible goods and related services".

#### **6) *Notices***

- a) Any notice given by one party to the other pursuant to the Contract Shall be in writing to the address specified in the contract. The term "in writing" means communicated in written form with proof of dispatch and receipt.
- b) A Notice Shall be effective when delivered or on the Notice's effective date, whichever is later.



**7) Governing Law**

The Contract Shall be governed by and interpreted in accordance with the laws of the Rajasthan State/ the Country (India), unless otherwise specified in the contract.

**8) Scope of Supply (wherever applicable)**

- a) Subject to the provisions in the bidding document and contract, the goods and related services to be supplied Shall be as specified in the bidding document.
- b) Unless otherwise stipulated in the Contract, the scope of supply Shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining delivery and completion of the goods and related services as if such items were expressly mentioned in the Contract.
- c) The bidder Shall not quote and supply and hardware/ software that is likely to be declared as End of Sale in next 6 months and End of Service/ Support for a period of 5 Years from the last date of bid submission. OEMs are required to mention this in the MAF for all the quoted hardware/ software. If any of the hardware/ software is found to be declared as End of Sale/ Service/ Support, then the bidder Shall replace all such hardware/ software with the latest ones having equivalent or higher specifications without any financial obligation to the purchaser.

**9) Delivery & Installation (wherever/whatever applicable)**

- a) Subject to the conditions of the contract, the delivery of the goods and completion of the related services Shall be in accordance with the delivery and completion schedule specified in the bidding document. The details of supply/ shipping and other documents to be furnished by the successful/ selected bidder are specified in the bidding document and/ or contract.
- b) The contract for the supply can be repudiated at any time by the purchase officer, if the supplies are not made to his satisfaction after giving an opportunity to the bidder of being heard and recording the reasons for repudiation.
- c) The Supplier/ Selected Bidder Shall arrange to supply, install and commission the ordered materials/ system as per specifications within the specified delivery/ completion period at various departments and/ or their offices/ locations mentioned in the PO/ WO.
- d) Shifting the place of Installation: The user will be free to shift the place of installation within the same city /town/ district/ division. The successful/ selected bidder Shall provide all assistance, except transportation, in shifting of the equipment with no additional cost to department. However, if the city/town is changed, additional charges of assistance in shifting and providing maintenance services for remaining period would be decided mutually.
- e) All title of the assets is to be transferred to RISL or its nominated agencies on the day of the successful delivery /installation/commissioning, whichever is earlier of the supplied items. All expenses occurred during transfer of titleship of assets Shall be borne by the selected bidder/ authorized partner.

**10) Supplier's/ Selected Bidder's Responsibilities**

The Supplier/ Selected Bidder Shall supply all the goods and related services included in the scope of supply in accordance with the provisions of bidding document and/ or contract.

**11) Purchaser's Responsibilities**

- a) Whenever the supply of goods and related services requires that the Supplier/ Selected Bidder obtain permits, approvals, and import and other licenses from local public authorities, the Purchaser Shall, if so required by the Supplier/ Selected Bidder, make its best effort to assist the Supplier/ Selected Bidder in complying with such requirements in a timely and expeditious manner.
- b) The Purchaser Shall pay all costs involved in the performance of its responsibilities, in accordance with the general and special conditions of the contract.

**12) Contract Price**

- a) The Contract Price Shall be paid as specified in the contract subject to any additions and adjustments thereto, or deductions there from, as may be made pursuant to the Contract.
- b) Prices charged by the Supplier/ Selected Bidder for the Goods delivered and the Related Services performed under the Contract Shall not vary from the prices quoted by the Supplier/ Selected Bidder in its bid, with the exception of any price adjustments authorized in the special conditions of the contract.

**13) Recoveries from Supplier/ Selected Bidder**

- a) Recovery of liquidated damages, short supply, breakage, rejected articles Shall be made ordinarily from bills.
- b) The Purchase Officer Shall withhold amount to the extent of short supply, broken/ damaged or for rejected articles unless these are replaced satisfactorily. In case of failure to withhold the amount, it Shall be recovered from his dues and performance security deposit available under this contract with tendering authority.
- c) The balance, if any, Shall be demanded from the Supplier/ Selected Bidder and when recovery is not possible, the Purchase Officer Shall take recourse to law in force.

**14) Taxes & Duties**

- a) The TDS, Raj-VAT, Service Tax etc., if applicable, Shall be deducted at source/ paid by RISL as per prevailing rates.
- b) For goods supplied from outside India, the successful/ selected bidder Shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the country.
- c) For goods supplied from within India, the successful/ selected bidder Shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- d) If any tax exemptions, reductions, allowances or privileges may be available to the successful/ selected bidder in India, the Purchaser Shall use its best efforts to enable the successful/ selected bidder to benefit from any such tax savings to the maximum allowable extent.

**15) Copyright**

The copyright in all drawings, design documents, source code and other materials containing data and information furnished to the Purchaser by the Supplier/ Selected Bidder herein Shall remain vested in the Supplier/ Selected Bidder, or, if they are furnished to the Purchaser directly or through the Supplier/ Selected Bidder by any third party, including suppliers of materials, the copyright in such materials Shall remain vested in such third party.

**16) Confidential Information**

- a) The Purchaser and the Supplier/ Selected Bidder Shall keep confidential and Shall not, without the written consent of the other party hereto, divulge to any third party any drawings, documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract.
- b) The Supplier/ Selected Bidder may furnish to its Subcontractor, if permitted, such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier/ Selected Bidder Shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier/ Selected Bidder.
- c) The Purchaser Shall not use such documents, data, and other information received from the Supplier/ Selected Bidder for any purposes unrelated to the Contract. Similarly, the Supplier/ Selected Bidder Shall not use such documents, data, and other information received from the Purchaser for any purpose other than the design, procurement, or other work and services required for the performance of the Contract.
- d) The obligation of a party under sub-clauses above, however, Shall not apply to information that: -
  - i. the Purchaser or Supplier/ Selected Bidder need to share with user department or RISL or other institutions participating in the Contract;
  - ii. now or hereafter enters the public domain through no fault of that party;
  - iii. can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
  - iv. otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- e) The above provisions Shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the supply or any part thereof.
- f) The provisions of this clause Shall survive completion or termination, for whatever reason, of the Contract.

**17) Sub-contracting**

- a) The bidder Shall not assign or sub-let his contract or any substantial part thereof to any other agency without the permission of Purchaser/ Tendering Authority.
- b) If permitted, the selected bidder Shall notify the Purchaser, in writing, of all subcontracts awarded under the Contract, if not already specified in the Bid. Subcontracting Shall in no event relieve the Supplier/ Selected Bidder from any of its obligations, duties, responsibilities, or liability under the Contract.

- c) Subcontractors, if permitted, Shall comply with the provisions of bidding document and/ or contract.

### ***18) Specifications and Standards***

- a) All articles supplied shall strictly conform to the specifications, trademark laid down in the bidding document and wherever articles have been required according to ISI/ ISO/ other applicable specifications/ certifications/ standards, those articles should conform strictly to those specifications/ certifications/ standards. The supply Shall be of best quality and description. The decision of the competent authority/ purchase committee whether the articles supplied conforms to the specifications Shall be final and binding on the supplier/ selected bidder.
- b) Technical Specifications and Drawings
  - i. The Supplier/ Selected Bidder Shall ensure that the goods and related services comply with the technical specifications and other provisions of the Contract.
  - ii. The Supplier/ Selected Bidder Shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
  - iii. The goods and related services supplied under this Contract Shall conform to the standards mentioned in bidding document and, when no applicable standard is mentioned, the standard Shall be equivalent or superior to the official standards whose application is appropriate to the country of origin of the Goods.
- c) Wherever references are made in the Contract to codes and standards in accordance with which it Shall be executed, the edition or the revised version of such codes and standards Shall be those specified in the bidding document. During Contract execution, any changes in any such codes and standards Shall be applied only after approval by the Purchaser and Shall be treated in accordance with the general conditions of the contract.
- d) The supplier/ selected bidder must certify that all the goods are new, unused, and of the agreed make and models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- e) The supplier/ selected bidder should further warrant that the Goods Shall be free from defects arising from any act or omission of the supplier/ selected bidder or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the place of final destination.

### ***19) Packing and Documents***

- a) The Supplier/ Selected Bidder Shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing Shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights Shall take into consideration, where appropriate, the

remoteness of the final destination of the Goods and the absence of heavy handling facilities at all points in transit.

- b) The packing, marking, and documentation within and outside the packages Shall comply strictly with such special requirements as Shall be expressly provided for in the Contract, including additional requirements, if any, specified in the contract, and in any other instructions ordered by the Purchaser.

## **20) Insurance**

- a) The Goods supplied under the Contract Shall be fully insured against loss by theft, destruction or damage incidental to manufacture or acquisition, transportation, storage, fire, flood, under exposure to weather and delivery at the designated project locations, in accordance with the applicable terms. The insurance charges will be borne by the supplier and Purchaser will not be required to pay such charges if incurred.
- b) The goods will be delivered at the FOR destination in perfect condition.

## **21) Transportation**

- a) The supplier/ selected bidder Shall be responsible for transport by sea, rail and road or air and delivery of the material in the good condition to the consignee at destination. In the event of any loss, damage, breakage or leakage or any shortage the bidder Shall be liable to make good such loss and shortage found at the checking/ inspection of the material by the consignee. No extra cost on such account Shall be admissible
- b) All goods must be sent freight paid through Railways or goods transport. If goods are sent freight to pay, the freight together with departmental charge @5% of the freight will be recovered from the supplier's/ selected bidder's bill.

## **22) Inspection**

- a) The Purchase Officer or his duly authorized representative Shall at all reasonable time have access to the supplier's/ selected bidder's premises and Shall have the power at all reasonable time to inspect and examine the materials and workmanship of the goods/ equipment/ machineries during manufacturing process or afterwards as may be decided.
- b) The supplier/ selected bidder Shall furnish complete address of the premises of his factory, office, go-down and workshop where inspection can be made together with name and address of the person who is to be contacted for the purpose.
- c) After successful inspection, it will be supplier's/ selected bidder's responsibility to dispatch and install the equipment at respective locations without any financial liability to the Purchaser. However, supplies when received at respective locations Shall be subject to inspection to ensure whether they conform to the specification.

## **23) Samples**

- a) When notified by the Purchaser to the supplier/ bidder/ selected bidder, Bids for articles/ goods marked in the BoM Shall be accompanied by four sets of samples of the articles quoted properly packed. Such samples if submitted personally will be received in the office. A receipt will be given for each sample by the officer receiving the samples. Samples if sent by train, etc., should be dispatched freight paid and the R/R or G.R. should be sent under a separate registered cover. Samples for catering/ food items should be given in a plastic box or in polythene bags at the cost of the bidder.

- b) Each sample Shall be marked suitably either by written on the sample or on a slip of durable paper securely fastened to the sample, the name of the bidder and serial number of the item, of which it is a sample in the schedule.
- c) Approved samples would be retained free of cost upto the period of six months after the expiry of the contract. RISL Shall not be responsible for any damage, wear and tear or loss during testing, examination, etc., during the period these samples are retained.
- d) The Samples Shall be collected by the supplier/ bidder/ selected bidder on the expiry of stipulated period. RISL Shall in no way make arrangements to return the samples. The samples uncollected within 9 months after expiry of contract Shall be forfeited by RISL and no claim for their cost, etc., Shall be entertained.
- e) Samples not approved Shall be collected by the unsuccessful bidder. RISL will not be responsible for any damage, wear and tear, or loss during testing, examination, etc., during the period these samples are retained. The uncollected samples Shall be forfeited and no claim for their cost, etc., Shall be entertained.
- f) Supplies when received may be subject to inspection to ensure whether they conform to the specifications or with the approved samples. Where necessary or prescribed or practical, tests Shall be carried out in Government laboratories, reputed testing house like STQC (ETDC) and the like and the supplies will be accepted only when the articles conform to the standard of prescribed specifications as a result of such tests.
- g) The supplier/ selected bidder Shall at its own expense and at no cost to the Purchaser carry out all such tests and/ or inspections of the Goods and Related Services as are specified in the bidding document.

#### ***24) Drawl of Samples***

In case of tests, wherever feasible, samples Shall be drawn in four sets in the presence of supplier/ bidder/ selected bidder or his authorized representative and properly sealed in their presence. Once such set Shall be given to them, one or two will be sent to the laboratories and/ or testing house and the third or fourth will be retained in the office for reference and record.

#### ***25) Testing charges***

Testing charges Shall be borne by the Government. In case, test results showing that supplies are not upto the prescribed standards or specifications, the testing charges Shall be payable by the selected bidder.

#### ***26) Rejection***

- a) Articles not approved during inspection or testing Shall be rejected and will have to be replaced by the selected bidder at his own cost within the time fixed by the Purchase Officer.
- b) If, however, due to exigencies of RISL/Police department work, such replacement either in whole or in part, is not considered feasible, the Purchase Officer after giving an opportunity to the selected bidder of being heard Shall for reasons to be recorded, deduct a suitable amount from the approved rates. The deduction so made Shall be final.
- c) The rejected articles Shall be removed by the supplier/ bidder/ selected bidder within 15 days of intimation of rejection, after which Purchase Officer Shall not be responsible for any loss, shortage or damage and Shall have the right to dispose of such articles as he thinks fit, at the selected bidder's risk and on his account.

### **27) Authenticity of Equipment**

- a) The selected bidder shall certify (as per Annexure-9) that the supplied goods are brand new, genuine/ authentic, not refurbished, conform to the description and quality as specified in this bidding document and are free from defects in material, workmanship and service.
- b) If during the contract period, the said goods be discovered counterfeit/ unauthentic or not to conform to the description and quality aforesaid or have determined (and the decision of the Purchase Officer in that behalf will be final and conclusive), notwithstanding the fact that the purchaser may have inspected and/ or approved the said goods, the purchaser will be entitled to reject the said goods or such portion thereof as may be discovered not to conform to the said description and quality, on such rejection the goods will be at the selected bidder's risk and all the provisions relating to rejection of goods etc., shall apply. The selected bidder shall, if so called upon to do, replace the goods etc., or such portion thereof as is rejected by Purchase Officer, otherwise the selected bidder shall pay such damage as may arise by the reason of the breach of the condition herein contained. Nothing herein contained shall prejudice any other right of the Purchase Officer in that behalf under this contract or otherwise.
- c) Goods accepted by the purchaser in terms of the contract shall in no way dilute purchaser's right to reject the same later, if found deficient in terms of this clause of the contract.

### **28) Warranty**

- a) The bidder to provide all items mentioned in **Annexure- 1 B** with OEM comprehensive warranty valid for five years. However for Primary storage and secondary storage mentioned in **Annexure-1 B** with OEM onsite comprehensive warranty valid for five years. The selected bidder shall submit a certificate/ undertaking from all the respective OEMs mentioning the fact that the goods are covered under comprehensive warranty & support for the prescribed period.
- b) Any goods repaired or replaced by the selected bidder shall be delivered at the respective location without any additional costs to the purchaser.
- c) If having been notified, the selected bidder fails to remedy the defect within the period specified, the purchaser may proceed to take within a reasonable period such remedial action as may be necessary, in addition to other recourses available in terms and conditions of the contract and bidding document.
- d) During the warranty period, the bidder shall also be responsible to ensure adequate and timely availability of spare parts needed for repairing the supplied goods.

### **29) Patent Indemnity**

- a) The supplier/ selected bidder shall, subject to the Purchaser's compliance with sub-clause (b) below, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: -
  - i. the installation of the Goods by the supplier/ selected bidder or the use of the Goods in the country where the Site is located; and

- ii. the sale in any country of the products produced by the Goods.  
Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the supplier/ selected bidder, pursuant to the Contract.
- b) If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to above, the Purchaser shall promptly give the supplier/ selected bidder a notice thereof, and the supplier/ selected bidder may at its own expense and in the Purchaser's, name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- c) If the supplier/ selected bidder fails to notify the Purchaser within thirty (30) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- d) The Purchaser shall, at the supplier's/ selected bidder's request, afford all available assistance to the supplier/ selected bidder in conducting such proceedings or claim, and shall be reimbursed by the supplier/ selected bidder for all reasonable expenses incurred in so doing.
- e) The Purchaser shall indemnify and hold harmless the supplier/ selected bidder and its employees, officers, and Subcontractors (if any) from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the supplier/ selected bidder may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

### **30) Limitation of Liability**

- a) Neither party shall be liable to the other party for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier/ selected bidder to pay liquidated damages to the Purchaser; and
- b) The aggregate liability of the supplier/ selected bidder to the Purchaser, whether under the Contract, in tort, or otherwise, shall not exceed the total contract value/amount/charges paid to the Supplier/ selected bidder until the time such claim was brought about, provided that this limitation shall not apply; i) to any obligation of the supplier/ selected bidder to indemnify the Purchaser with respect to patent infringement, and ii) any damages payable due to the Gross Negligence or Wilful Misconduct of the Supplier/selected bidder. For the purpose of this clause, Gross Negligence or Wilful Misconduct shall mean;
- c) "Gross Negligence" means any act or failure to act by a Party which was in reckless disregard of or gross indifference to the obligations of the Party under the Contract and which causes harmful consequences to life, personal safety or real property of the other Party which such Party knew, or would have known if it was acting as a reasonable person, would result from such act or failure to act. Notwithstanding the foregoing, Gross



Negligence shall not include any action taken in good faith for the safeguard of life or property or a mistake made in good faith.

- d) "Willful Misconduct" means an intentional disregard of any provision of this Contract which a Party knew or should have known if it was acting as a reasonable person, would result in harmful consequences to life, personal safety or real property of the other Party but shall not include any error of judgment or mistake made in good faith.
- e) The above provision does not limit either Parties rights provided under applicable laws of Govt. of India.

### **31) Force Majeure**

- a) The supplier/ selected bidder shall not be liable for forfeiture of its PSD, LD, or termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- b) For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the supplier/ selected bidder that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the supplier/ selected bidder. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, pandemic, quarantine restrictions, and freight embargoes.
- c) If a Force Majeure situation arises, the supplier/ selected bidder shall promptly notify the RISL in writing of such conditions and cause thereof within 15 days of occurrence of such event. Unless otherwise directed by RISL, the supplier/ selected bidder shall continue to perform its obligations under the contract as far as reasonably practical.
- d) If the performance in whole or part or any obligation under the contract is prevented or delayed by any reason of Force Majeure for a period exceeding 60 days, either party at its option may terminate the contract without any financial repercussion on either side.
- e) In case a Force Majeure situation occurs with the Police department or RISL, the police department or RISL may take the case with the supplier/ selected bidder on similar lines.

### **32) Change Orders and Contract Amendments**

- a) The Purchaser may at any time order the supplier/ selected bidder through Notice in accordance with clause "Notices" above, to make changes within the general scope of the Contract in any one or more of the following: -
  - i. drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
  - ii. the method of shipment or packing;
  - iii. the place of delivery; and
  - iv. the related services to be provided by the supplier/ selected bidder.
- b) If any such change causes an increase or decrease in the cost of, or the time required for, the supplier's/ selected bidder's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery and Completion Schedule, or both, and the Contract shall accordingly should be amended. Any claims by the supplier/ selected bidder for adjustment under this clause must be asserted

within thirty (30) days from the date of the supplier's/ selected bidder's receipt of the Purchaser's change order.

- c) Prices to be charged by the supplier/ selected bidder for any related services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier/ selected bidder for similar services.

### **33) Termination**

#### **a) Termination for Default**

- i. The tender sanctioning authority of RISL may, without prejudice to any other remedy for breach of contract, by a written notice of default of at least 30 days sent to the supplier/ selected bidder, terminate the contract in whole or in part: -
  - a. If the supplier/ selected bidder fails to deliver any or all quantities of the service within the time period specified in the contract, or any extension thereof granted by RISL; or
  - b. If the supplier/ selected bidder fails to perform any other obligation under the contract within the specified period of delivery of service or any extension granted thereof; or
  - c. If the supplier/ selected bidder, in the judgement of the Purchaser, is found to be engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the contract.
  - d. If the supplier/ selected bidder commits breach of any condition of the contract.
- ii. If RISL terminates the contract in whole or in part, amount of PSD may be forfeited.
- iii. Before cancelling a contract and taking further action, advice of senior most finance person available in the office and of legal adviser or legal assistant posted in the office, if there is one, may be obtained.
- iv. As on effective date of termination, Tendering Authority may pay:
  - a. the unpaid value of all the assets supplied by the Bidder and accepted by the purchaser in accordance with the RFP specifications in order to take over the possession of the assets / application.
  - b. all the services delivered by the Bidder and accepted by the purchaser; the consideration payable shall be based on service rate as per agreement.

#### **b) Termination for Insolvency**

RISL may at any time terminate the Contract by giving a written notice of at least 30 days to the supplier/ selected bidder, if the supplier/ selected bidder becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the supplier/ selected bidder, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to RISL.

### **34) Exit Management**

#### **a) Preamble**

- i. The word 'parties' include the procuring entity and the selected bidder.
- ii. This Schedule sets out the provisions, which will apply on expiry or termination of project Operations and Management of SLA.
- iii. In the case of termination of the Project Operation and Management SLA due to illegality, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply.

- iv. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

**b) Transfer of Assets**

- i. The selected bidder may continue work on the assets for the duration of the exit management period which may be a six months period from the date of expiry or termination of the agreement, if required by RISL to do so. During this period, the selected bidder will transfer all the assets in good working condition and as per the specifications of the bidding document including the ones being upgraded to the department/ designated agency. The security deposit/ performance security submitted by selected bidder will only be returned after the successful transfer of the entire project including its infrastructure.
- ii. The selected bidder, if not already done, will transfer all the Software Licenses under the name of the department as desired by the procuring entity during the exit management period.
- iii. RISL during operation and management phase shall be entitled to serve notice in writing to the selected bidder at any time during the exit management period requiring the selected bidder to provide DoIT&C or its nominated agencies with a complete and up-to-date list of the assets within 30 days of such notice.
- iv. Upon service of a notice, as mentioned above, the following provisions shall apply:
  - a. In the event, if the assets which to be transferred to RISL mortgaged to any financial institutions by the selected bidder, the selected bidder shall ensure that all such liens and liabilities have been cleared beyond any doubt, prior to such transfer. All documents regarding the discharge of such lien and liabilities shall be furnished to RISL or its nominated agencies.
  - b. All title of the assets to be transferred to RISL or its nominated agencies pursuant to clause(s) above shall be transferred on the last day of the exit management period. All expenses occurred during transfer of assets shall be borne by the selected bidder.
  - c. That on the expiry of this clause, the selected bidder and any individual assigned for the performance of the services under this clause shall handover or cause to be handed over all confidential information and all other related material in its possession, including the entire established infrastructure supplied by selected bidder to RISL.
  - d. That the products and technology delivered to RISL during the contract term or on expiry of the contract duration should not be sold or re-used or copied or transferred by selected bidder to other locations apart from the locations mentioned in this bidding document without prior written notice and approval of RISL. Supplied hardware, software & documents etc., used by selected bidder for RISL shall be the legal properties of RISL.

**c) Cooperation and Provision of Information during the exit management period**

- i. The selected bidder will allow RISL or its nominated agencies access to the information reasonably required to define the current mode of operation associated with the provision of the services to enable RISL or its nominated agencies to assess the existing services being delivered.
- ii. The selected bidder shall provide access to copies of all information held or controlled by them which they have prepared or maintained in accordance with the Project Implementation, the Operation and Management SLA and SOWs relating to any material

aspect of the services provided by the selected bidder. RISL or its nominated agencies shall be entitled to copy all such information comprising of details pertaining to the services rendered and other performance data. The selected bidder shall permit RISL or its nominated agencies and/ or any replacement operator to have reasonable access to its employees and facilities as reasonably required by RISL or its nominated agencies to understand the methods of delivery of the services employed by the selected bidder and to assist appropriate knowledge transfer.

**d) Confidential Information, Security and Data**

The selected bidder will promptly on the commencement of the exit management period supply to RISL or its nominated agencies the following:

- i. Documentation relating to Intellectual Property Rights;
- ii. Project related data and confidential information;
- iii. All current and updated data as is reasonably required for purposes of RISL or its nominated agencies transitioning the services to its replacement selected bidder in a readily available format nominated by RISL or its nominated agencies; and
- iv. All other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable RISL or its nominated agencies, or its replacement operator to carry out due diligence in order to transition the provision of the services to RISL or its nominated agencies, or its replacement operator (as the case may be).
- v. Before the expiry of the exit management period, the selected bidder shall deliver to RISL or its nominated agencies all new or up-dated materials from the categories set out above and shall not retain any copies thereof, except that the selected bidder shall be permitted to retain one copy of such materials for archival purposes only.

**e) Transfer of certain agreements**

- i. On request by Procuring entity or its nominated agencies, the selected bidder shall effect such assignments, transfers, innovations, licenses and sub-licenses as Procuring entity or its nominated agencies may require in favour of procuring entity or its nominated agencies, or its replacement operator in relation to any equipment lease, maintenance or service provision agreement between selected bidder and third party leasers, operators, or operator, and which are related to the services and reasonably necessary for carrying out of the replacement services by RISL or its nominated agencies, or its replacement operator.
- ii. Right of Access to Premises: At any time during the exit management period and for such period of time following termination or expiry of the SLA, where assets are located at the selected bidder's premises, the selected bidder will be obliged to give reasonable rights of access to (or, in the case of assets located on a third party's premises, procure reasonable rights of access to RISL or its nominated agencies, and/ or any replacement operator in order to inventory the assets.

**f) General Obligations of the selected bidder**

- i. The selected bidder shall provide all such information as may reasonably be necessary to effect as seamless during handover as practicable in the circumstances to RISL or its nominated agencies or its replacement operator and which the operator has in its possession or control at any time during the exit management period.

- ii. The selected bidder shall commit adequate resources to comply with its obligations under this Exit Management Clause.

**g) Exit Management Plan**

- i. The selected bidder shall provide RISL or its nominated agencies with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the SLA as a whole and in relation to the Project Implementation, the Operation and Management SLA and SOWs.
- ii. A detailed program of the transfer process that could be used in conjunction with a replacement operator including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer; and
- iii. Plans for the communication with such of the selected bidder's, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on RISL operations as a result of undertaking the transfer; and
- iv. If applicable, proposed arrangements and Plans for provision of contingent support in terms of business continuance and hand holding during the transition period, to RISL or its nominated agencies, and Replacement Operator for a reasonable period, so that the services provided continue and do not come to a halt.
- v. The Bidder shall re-draft the Exit Management Plan annually after signing of contract to ensure that it is kept relevant and up to date.
- vi. Each Exit Management Plan shall be presented by the selected bidder to and approved by RISL or its nominated agencies.
- vii. In the event of termination or expiry of SLA, Project Implementation, Operation and Management SLA or SOWs each party shall comply with the Exit Management Plan.
- viii. During the exit management period, the selected bidder shall use its best efforts to deliver the services.
- ix. Payments during the Exit Management period shall be made in accordance with the Terms of Payment Clause.
- x. It would be the responsibility of the selected bidder to support new operator during the transition period.

**35) Settlement of Disputes**

- a) In the case of a dispute or difference arising between the Tendering authority and the successful bidder relating to any matter arising out of or connected with this Contract, such dispute or difference shall be referred to the Sole arbitrator, whose decision shall be final and binding on the parties.
- b) The Arbitration and Conciliation Act 1996, the rules there under and any statutory modification or re-enactment's thereof, shall apply to the arbitration proceedings. The Tendering authority may terminate this contract, by giving a written notice of termination of minimum 30 days, to the SI, if the successful bidder fails to comply with any decision reached consequent upon arbitration proceedings.
- c) Legal Jurisdiction: All legal proceedings arising out of any dispute between both the parties regarding a contract shall be settled by a competent court having jurisdiction over the place, where agreement has been executed and by no other court.

## 8. SPECIAL TERMS AND CONDITIONS OF TENDER & CONTRACT

### 1) Payment Terms and Schedule

- a) Payment to the bidder will be made division wise on quarterly basis and accordingly payment will be done.
- b) Payment schedule - Payments to the bidder would be made as under: -

S. No	Major Milestone	Timeline	Deliverables
1.	O & M for 5 years	F + 5 years	O & M reports as mentioned below in "Table for O & M reports"

**Note:** F is the date on which Work Order is given by department/ tendering authority.

- c) Bidder need to ensure that if deputed resources are than 75% of the total manpower in any quarter for more than 10 days then no invoice would be acceptable till 100% deployment of the resource, applicable penalty would also applicable.
- d) The supplier's/ selected bidder's request for payment shall be made to the purchaser in writing, accompanied by invoices describing, as appropriate, the goods delivered and related services performed, and by the required documents submitted pursuant to general conditions of the contract and upon fulfilment of all the obligations stipulated in the Contract.
- e) Due payments shall be made promptly by the purchaser, generally within sixty (60) days after submission of an invoice or request for payment by the supplier/ selected bidder, and the purchaser has accepted it.
- f) The currency or currencies in which payments shall be made to the supplier/ selected bidder under this Contract shall be Indian Rupees (INR) only.
- g) All remittance charges will be borne by the supplier/ selected bidder.
- h) In case of disputed items, the disputed amount shall be withheld and will be paid only after settlement of the dispute.
- i) Payment in case of those goods which need testing shall be made only when such tests have been carried out, test results received conforming to the prescribed specification.
- j) Any penalties/ liquidated damages, as applicable, for delay and non-performance, as mentioned in this bidding document, will be deducted from the payments for the respective milestones.
- k) Taxes, as applicable, will be deducted/ paid as per the prevalent rules and regulations,

### 2) Service Level Standards/ Requirements/ Agreement

The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the selected bidder to the tendering authority for the duration of this contract.

The tendering authority will regularly review the performance of the services being provided by the selected bidder and impose penalties if any deficiency is found in the services.

The SLA has been logically segregated in the following categories:

- I. IT and Non-IT Infrastructure service levels
- II. Security Management service levels
- III. Edge Infrastructure Service Levels
- IV. Manpower availability service levels
- V. Help desk service levels

### I. IT and Non-IT Infrastructure service levels

This service level will be applicable on following IT equipment's and non-IT equipment's which are part of list mentioned at **Annexure-1** and additional hardware which may be deployed during the project period in command & control centre:

S. No	Service description	Measurement parameter	Target	Penalty
1.	CCC Uptime calculated for each IT and Non-IT equipment supplied by SI	Uptime of an equipment = $\{1 - \frac{[(\text{Equipment downtime}) * (\text{Severity factor})]}{(\text{Total Time})}\} * 100$	$\geq 99.0\%$	NA
			$< 99.0$ and $\geq 97.0\%$	For every 0.5% degradation in the uptime there will be a penalty of 1% of Agreed Quarterly Payment
			$< 97.0\%$	For every 0.5% degradation in the uptime there will be a penalty of 2% of the Agreed Quarterly payment
2.	Preventive Maintenance	No. of days	In last 15 days of the quarter	Rs. 1,000/- per day per equipment subject to maximum of Rs.3,000/- per equipment per quarter

**Note:**

- For SLA calculation equipment wise downtime will be calculated and thereafter sum of all equipment downtime should be less than (total time in quarter in minutes - 99.0% uptime based minute) in a quarter for non-applicability of penalty.
- Equipment/Services Downtime is the time in hours that the equipment/ Services is not available and excludes planned downtime, which are approved by the tendering authority and the link failures that are taken from third party. The downtime shall be calculated from the NMS/EMS or BMS, as may be applicable. In case, downtime of any equipment/ Services is not available on NMS/EMS/BMS, it shall be calculated from the helpdesk.
- Severity factors of each equipment's mentioned in RFP would be use for calculation.
- Total time is equal to total number of hours in the given quarter
- Planned Downtime means any time when the equipment's is unavailable because of maintenance, configuration/reconfiguration or other services with the prior approval of tendering authority/Police Department.
- **Total time** is equal to total number of hours in the given quarter
- **Planned Downtime** means any time when the equipment's is unavailable because of maintenance, configuration/reconfiguration or other services with the prior approval of tendering authority/Police Department. Such services may include but are not limited to restarting applications, rebooting servers, applying patches or fixes, reconfiguring storage allocation, reloading data and making DNS to close security holes.
- **Example: 90 days will be considered in each quarter.**

**Thus, total time in quarter is 129600 minutes and total uptime is 99% i.e., 128304 minutes. Total downtime allowed is 1296 minutes in a quarter. For SLA calculation equipment wise downtime will be calculated and thereafter sum of all equipment downtime should be less than 1296 minutes in a quarter for non-applicability of penalty.**

## II. Security Management service levels

This service level will be applicable for security related incidents as follows:

S. No	Service description	Measurement parameter	Target	Penalty
1.	Data Centre of CCC shall be kept free from virus attack	Resolution time for each virus attack	12 – 36 hours, as may be decided by tendering authority, depending upon the severity of the attack	Rs. 5000 for delay of every 24 hours or it's part
2.	Datacentre of CCC shall be kept free from denial of service (DoS) attack	Number of DoS attacks	Zero	Rs. 100000 per DoS attack
3	There shall be no Data theft or loss or compromise of any data hosted at SDC of CCC	Number of such incident	Zero	Rs. 100000 per such incident
4	There shall be no intrusion	Number of such incidents	Zero	Rs. 50000 such incident

- Virus Attack refers to any virus infection and passing of malicious code and shall be monitored at the gateway level or logged at the help desk system on complaint of virus infection by user.
- Denial of Service Attack refers to non-availability of any services. An incident shall be analyzed and forensic evidence examined to check if the incident is due to external DoS attack.
- Intrusion refers to unauthorized access to networks, systems, services, applications or data, protecting email gateways, servers, desktops.

## III. Edge Infrastructure Service Levels

### a. Poles

S. No.	Time to resolve complaint after lodging the complaint	Item Type	Penalty (in Rs.) (Per day per quantity of item for every 96 hours passed after expiry of 24 hours of lodging the complaint)
1.	Within 96 hours of lodging the complaint	Poles	No penalty
2.	> 96 hours of lodging the complaint	Poles	1000/-

### b. For all remaining items mentioned in Bill of material

S. No.	Time to resolve complaint after lodging the complaint	Item Type	Penalty (in Rs.) (Per day per quantity of item for every 24 hours passed after expiry of 4 hours of lodging the complaint)
1.	Within 24 hours of lodging the complaint	All items mentioned in Bill of Material except Poles and solar panel	No penalty
2.	>24 hours of lodging the complaint	Junction Box, Access Switch, Bullet and Box Camera, Dome Camera, 4K, PTZ and Specialized Camera for Van,	500/-



S. No.	Time to resolve complaint after lodging the complaint	Item Type	Penalty (in Rs.) (Per day per quantity of item for every 24 hours passed after expiry of 4 hours of lodging the complaint)
		Radio Antenna, Speed Enforcement System with Camera for Intelligent Traffic Management System, NVR, Access, Switch, Emergency Call Box, Specialized Camera for Prisoner Van, ITMS Sensor, Tablets, ANPR Camera, Split Air Conditioner, Table, Chair, UPS,	
		Electrical Cabling	1000/-
		Drone	1000/-
		For any other item	0.5% of Item Cost

#### IV. Manpower availability service levels

The manpower deployed by SI for carrying out and providing FMS services shall necessarily be on direct payroll of the bidder organization and should not be outsourced / subcontracted in any circumstances except for the following manpower category:

1. Help Desk Support Staff
2. Electrical Assistant
3. Housekeeping

Only the above mentioned categories may be outsourced / subcontracted by the bidder organization.

SI appoint as many team members, as deemed fit by them, subject to the minimum manpower specified below to meet the SLA requirements. The tendering authority would not be liable to pay any additional cost for this. SI provide detailed CV of each of the resource being provided to tendering authority before deployment of the resource at datacentre.

**The resources shall be deployed by the SI to manage the field locations, CCC and datacentre 24 \*7 and maintain the service level requirements. Provisions of leave reserve, providing leaves and other facilities / perks shall be as per SI prevailing policies / practices which shall be taken care by SI without any liability and/or financial implications on the part of Purchaser. Additional resources to maintain the shifts during leave/week offs should comply with the education and experience criteria as mentioned in the RFP.**

The resource requirement mentioned below is for each city. The cost of the same shall be considered separately in BoQ and shall be quoted separately by bidder in the respective row in BoQ.

**Annexure-A: Minimum Manpower Resource Table**

S.No	Profile	General Shift (9:30 am to 6:00 pm)	Morning Shift (6:00 am to 2:00 pm)	Afternoon Shift (2:00 pm to 10:00 pm)	Night Shift (10:00 pm to 6:00 am)	Min. Qualification, Relevant Experience & Certifications	Penalty on non-availability of resource (Per resource per Shift)
1	2	3	4	5	6	7	8
1	Project Manager	1				B.E. / B.Tech / M.Sc(IT)/MCA, 15 Years of Post-Qualification Experience, at least 5 years' experience in surveillance & Emergency project management, PMP/Prince 2 Certified	8000
2	Team Lead (Division)	1				B.E./B.Tech/M.Sc(IT)/MCA, 8 Years of Post Qualification Experience in NOC/Same kind of project experience/Cameras installation or implementation or design experience , at least 3 years experience in surveillance or emergency project	5000
3	Server Administrator (Division)	1			1	B.E. / B.Tech / M.Sc(IT)/ MCA, 5 years' experience post qualification in server administration, Should have knowledge of Virtualization, OEM certificate for L2 level in server/OS administration	2000
4	Storage Administrator (Division)	1			1	B.E. / B.Tech / M.Sc(IT)/ MCA, 5 years' experience post qualification in storage administration. One OEM certification in storage administration	2000

S.No	Profile	General Shift (9:30 am to 6:00 pm)	Morning Shift (6:00 am to 2:00 pm)	Afternoon Shift (2:00 pm to 10:00 pm)	Night Shift (10:00 pm to 6:00 am)	Min. Qualification, Relevant Experience & Certifications	Penalty on non-availability of resource (Per resource per Shift)
1	2	3	4	5	6	7	8
						for on-premises data management	
5	Network Administrator (Divisions)	1			1	B.E. / B.Tech / M.Sc(IT)/ MCA, 5 years experience post qualification in Network. CCNA/JNCIA certification in routing/switching. Experience in surveillance project will add on	2000
6	Database Administrator (Division)	1			1	B.E. / B.Tech / M.Sc(IT)/MCA, 5 Years relevant experience, OEM Certified Level-2 Engineer on any database.	2000
7	EPBAX engineer (Division)	1			1	Graduate with 3 Years relevant experience and at least 1 year experience in Voice/data management	2000
8	ITMS (Jaipur, Kota & Jodhpur) analyst		1	1	1	B.E. / B.Tech / M.Sc(IT)/MCA, 3 Years relevant experience. At least 1 years' experience in any ITMS related project.	2000
9	DIAL 100 Expert (Division)		1	1	1	B.E. / B.Tech / M.Sc(IT)/MCA, 3 Years relevant experience. At least 1 years experience in any emergency service project delivery	2000

S.No	Profile	General Shift (9:30 am to 6:00 pm)	Morning Shift (6:00 am to 2:00 pm)	Afternoon Shift (2:00 pm to 10:00 pm)	Night Shift (10:00 pm to 6:00 am)	Min. Qualification, Relevant Experience & Certifications	Penalty on non-availability of resource (Per resource per Shift)
1	2	3	4	5	6	7	8
10	VMS Software Expert (Division)		1	1	1	B.E. / B.Tech / M.Sc(IT)/MCA, 3 Years relevant experience. At least 1 years experience in any commercial VMS Software management	2000
11	CCC Software Expert (Division)		1	1	1	B.E. / B.Tech / M.Sc(IT)/MCA, 3 Years relevant experience. At least 1 year experience in video analytics.	2000
12	Help Desk Engineer (Division)		1	1	1	Graduate with 2 years experience. Experience of at least 1 year on any helpdesk ticketing tool. ITIL knowledge is must.	1500
13	Electrician (Division)		1	1	1	Valid Electrical Inspector License /ITI in electrical With minimum 3 Years of relevant experience. At least 1 year of experience in data centre for non-IT electric/HVAC equipment's handling	1500
14	House Keeping (Division)		1	1	1	Relevant Experience	750
15	Field Unit Team (division except Jaipur & Jodhpur)		1	1	1	NA	2000
16	Field Unit Team (Jaipur & Jodhpur)		2	2	2	NA	2000 ( Per Unit)

S.No	Profile	General Shift (9:30 am to 6:00 pm)	Morning Shift (6:00 am to 2:00 pm)	Afternoon Shift (2:00 pm to 10:00 pm)	Night Shift (10:00 pm to 6:00 am)	Min. Qualification, Relevant Experience & Certifications	Penalty on non-availability of resource (Per resource per Shift)
1	2	3	4	5	6	7	8
16	SPOC (District Edge)	1				PGDCA/BCA or higher education in Information Technology domain with minimum 4 Years of relevant experience in NOC/Same kind of project experience/Cameras installation or implementation or design experience. At least 2 year experience in surveillance and emergency project	1500
17	Support/Maintenance Engineer at 26 Districts		2	2	2	ITI (Electrical or Computer or IT)/Graduate with minimum 3 Years of relevant experience post qualification. At least 1 year of experience in Camera installation/ support kind of role in field.	1500

**Note:**

- Project Manager need to visit one division apart from his base location (Jaipur) monthly.
- Field Unit team have availability of one Hydraulic vehicle with driver (with necessary licenses), 3 support staff with ITI (after 12) or Graduate with minimum 3 Years of relevant experience. At least 1 year of experience in Camera installation/ support kind of role in field.
- Unit would be considered unavailable in case any of the resource missing in UNIT per shift.
- In Unit Support staff should be on bidder's payroll as mentioned in Manpower availability services.

**Drone Pilot for Jaipur and Kota city**

S.No.	Role	Manpower Requirement per day	Penalty on non-availability of resource
1	2	3	4
1	Drone Pilot (1 for Jaipur, Udaipur & Kota each city)	1	As per penalty for profile mentioned in Network Administrator in "Minimum Manpower Resource

			Table for each city”. However it will be calculated per day instead of per shift.
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Note: SI always maintain above minimum manpower on-site throughout the period of the contract.

- Every resource has to hand over his shift to other resource if there is availability of resource in next shift.
- The team deployment plan shall be prepared by SI periodically and shall obtain approval from OIC-SDC /tendering authority prior to its implementation.
- No resource shall be absent without prior permission of the designated authority. Penalty on non-availability of any resource shall be as under:

S. No.	No. of absence shifts per role in a quarter	Applicable Penalty / Actions
1.	> 0 but <= 10	No. of absence shifts x Amount defined in the <b>“Minimum Manpower Resource Table”</b> respectively for given role in a quarter
2.	> 10 but <=30	No. of absence shifts x 2x Amount defined in <b>“Minimum Manpower Resource Table”</b> respectively for given role in a quarter
3.	> 30	No. of absence shifts x 2x Amount defined in the <b>“Minimum Manpower Resource Table”</b> respectively for given role in a quarter And Issue of letter of warning and subsequent actions as per terms and conditions of RFP

Note: An absence of more than half an hour from the work place, without having permission of OIC-Project shall be considered as absent for the shift.

#### TOTAL COUNT OF MANPOWER (Annexure – D)

Manpower requirement mentioned in RFP in <b>Data Center and CCC</b>			
Profile	Resource per day at per division	Total resource at all seven division	
Team Lead	1	7	
Server	2	14	
Storage	2	14	
Network	2	14	
Database	2	14	
EPABX	2	14	
Dial 100	3	21	
VMS	3	21	
CCC	3	21	
Helpdesk	3	21	
Electrician	3	21	
House keeping	3	21	
Project Manager	NA	1	
<b>Total Resource</b>	<b>29</b>	<b>204</b>	
Manpower requirement for <b>Edge Equipment’s at 7 Divisions</b> mentioned in RFP			
Division Name	Unit per shift per division	Total shift per day	Total Unit per day at division
Ajmer	1	3	3
Bharatpur	1	3	3

<b>Bikaner</b>	<b>1</b>	<b>3</b>	<b>3</b>
<b>Kota</b>	<b>1</b>	<b>3</b>	<b>3</b>
<b>Udaipur</b>	<b>1</b>	<b>3</b>	<b>3</b>
<b>Jaipur</b>	<b>2</b>	<b>3</b>	<b>6</b>
<b>Jodhpur</b>	<b>2</b>	<b>3</b>	<b>6</b>
<b>Total Units per day at 7 divisions</b>			<b>27</b>

**Note: 1 unit would have one hydraulic vehicle, 3 support staff and one driver.**

Manpower requirement for <b>Edge Equipments at 26 Districts</b> mentioned in RFP		
<b>Profile</b>	<b>Resource per day per districts</b>	<b>Total resource at 26 districts</b>
SPOC	1	26
Support Staff	6	156
<b>Total Resource</b>	<b>7</b>	<b>182</b>

Manpower for <b>Drone (Jaipur, Kota, Udaipur)</b>			
<b>Profile</b>	<b>Resource per day at Kota and Udaipur Division Only</b>	<b>Resource per day at Jaipur Division Only</b>	<b>Total resource at Jaipur, Kota, Udaipur division only</b>
DRONE Engineer	1	2	4

Manpower CCC- <b>ITMS</b> Experts as mentioned in RFP		
<b>Profile</b>	<b>Resource per day at per division</b>	<b>Total resource at Jaipur, Jodhpur Kota division only</b>
ITMS Experts	3	9

### 1) Manpower Change

The replacement of resources by bidder after deployment will be allowed (without penalty) only in case, the resource leaves the organization by submitting resignation with the present employer. In case of failure to meet the standards of the purchaser, (which includes efficiency, cooperation, discipline and performance) bidder may be asked to replace the resource without any penalty for replacement/exit.

The penalty per resource would be imposed in case of exit/replacement of resource from the project as per the details given below

<b>Sr.</b>	<b>Resource Type</b>	<b>Applicable Penalty when resource is leaving</b>	
		<b>Within 1 year of DOJ</b>	<b>After 1 year of DOJ</b>
1.	Manpower resources for specialized services	10 times of the penalty mentioned in column "8" of above mentioned table "Minimum Technical/Non-Technical/OEM Manpower Resource Table for Implementation and O&M period	5 times of the penalty mentioned in " <b>Minimum Manpower Resource Table</b> " respectively for given role in a quarter

### V. Help desk service levels

The service level standards under this sub section pertain to all services which (i) do not impact the uptime of the equipment mentioned in sub section A above and (ii) are not related to security related services mentioned in sub section B above. Thus, if services are not available because of a virus attack

or because equipment is down, penalties under this sub section shall not be applicable. However, penalties may be attracted both under sub section A and sub section B if any of the service mentioned in these subsections are hampered because of shortage or unavailability of manpower. It is further clarified that in some cases breakdown of equipment may generate a service request for restoring services on another equipment and non-compliance of service level for the generated service request may lead to penalties under sub section A and this sub-section.

S. No	Service description	Measurement parameter	Target	Penalty
1.	Various service related to Comprehensive onsite maintenance and FMS promptly	Resolution time measured as the time taken by the SI to troubleshoot and fix the problem. Call will be treated as logged immediately after any incident / problem occurs / request made.	1 hour for incident of severity level 1;	1% of the Agreed Quarterly Payment for every 30 mins (or its part) delay.
			4 hours for incident of severity level 2;	0.5% of the Agreed Quarterly Payment for every 60 mins (or its part) delay.
			8 hours for incident of severity level 3;	0.25% of the Agreed Quarterly Payment for every 120 mins (or its part) delay.

- It is clarified that the downtime on account of delay by the OEM/maintenance service provider (other than SI) in repairing / replacing equipment's for which either warranty/comprehensive maintenance has not been asked for from the SI or for which warranty already exists (or was taken by tendering authority) shall not be counted.
- Severity levels for some of the services are given as below. Tendering authority reserves the right to define severity levels of services not mentioned below based on the criticality of the incident occurred and level of impact/affected users.
  - a) **Severity Level-1** : Denial of services outage that impacts more than one user department or application services shall come under severity level 1, however denial of services impacting critical applications or users like Hon'ble CM, the Ministers, Secretaries and other senior officials then the incident will also come under Severity level 1.  
The indicative list of such incidents/ request is as given below:
    - Virtualization system software failure
    - Hardware (failure and not functioning) of critical application where multiple user (more than 5 users) impacted
    - OS failure of machine hosting critical application or dependent services of critical application
    - Active directory/ DNS/NTP failure
    - Any problems related to router, switch, impacting multiple users or critical application (dial 100/VMS/ITMS) not accessible.
    - Any problems related to SAN where Hardware/application not accessible or functioning as per requirement.



- Database not responding or performing slow because of which application either not accessible or latency/lag observation.
  - WAN/LAN Links down where multiple user getting impact.
  - Issues related to storage solution
  - Chassis/Server down
  - Defacing of website
  - Data breach where personal data or application gets impacted
  - Security incident where data gets corrupted related to critical application dial 100/VMS/ITMS.
  - Critical application not working and not accessible to multiple ( more than 5 users) end user.
- Troubleshooting any reported problems where critical application/Hardware not accessible due to any issue.

- b) **Severity Level-2:** Denial of services/ Standard compliance causing unavailability of single application will come under severity level 2. Apart from this Spamming, Network latency will also come under severity level 2.

The indicative list of such incidents/ request is as given below:

- Recording not available ( digital evidence or any specific video recording asked by client)
- Issue raised after Deploying and upgrading existing software
- Troubleshooting any reported problems where any component /feature set not working of application.
- Cluster running on single server
- The monitoring, error isolation, escalation, and repair of problems
- Configuring load-balancing and working with networks to improve the reliability and reduce the latency of the system.
- LAN connectivity as per requirements for server/workstations
- Any critical dial 100/VMS/ITMS application performance issues
- Any hardware failure in redundant component of storage except disk.
- DBMS performance issue related index, deadlock etc,
- Restoring backup in production for incident recovery for application.
- Authentication/Authorization
- Anti virus server not functioning
- Authorization failure
- Any other issue where application functioning in fault tolerant mode and with limited feature.

- c) **Severity Level-3:** Denial of services/ standard Compliance causing unavailability of services for individual will come under this severity level. Apart from this performance issues causing slow services for application should come under severity level 3. Services which do not impact user but are desirable will also come under severity level 3.

The indicative list of such incidents/ request is as given below:

- OS deployment
- Web hosting
- Patch installation
- Acting on incidents which crosses threshold (TMP/Storage space)

- Antivirus updates
- Data archival, Data restoration
- Planned Maintenance activities
- User Management
- Backup policy
- Microcode upgrades
- Monitoring SAN fabric / Storage / Backup events & respond to events crossing threshold limits
- Preliminary maintenance of datacentre equipment
- Passive cable component connecting the above equipment etc.
- Minor repairs of Physical Infrastructure components like breakage of tiles etc.
- Cleaning of SDC premises.
- Failure of Help Desk Services
- Hosting applications on servers
- Adding server in domain
- Installing and configuring new hardware and software.
- Changing group memberships for domain user
- Creating logon scripts
- Reporting server performance
- Assigning remote login permissions
- Applying operating system updates, patches, and configuration changes.
- Adding, removing, or updating user account information, resetting passwords.
- Answering technical queries and assisting users.
- Management agent lost
- Documenting the configuration of the system.
- System performance tuning.
- Creating new ftp account and urls on ftp
- Change password for ftp users
- Change ftp permissions
- User addition
- Modify user access to the database
- Generating various reports by querying from database as per need.
- Regulation and management of access rights of different users of a website
- The appearance and setting up website navigation
- Content placement
- Performing performance management, availability reporting, and other administration
- Update the inventory detail & documentation
- Update of Network connectivity and layouts
- IOS up gradation
- Work with existing programmers, DBAs to optimize storage
- Facilitate off-site storage of tape
- Availability, Reporting on status, Capacity planning of storages
- reporting storage growth

- High CPU or memory utilization
- Procedure creation on DBMS
- Table management in DBMS
- Sequence management in DBMS
- Page management for OS
- Uploading pages on web
- User, account and group management
- Access card related issue
- AC servicing
- IP management
- Application migration
- AC power failure
- BMS device servicing
- Warning alarms
- SYSLOG event occurred

**Penalty Capping:**

Total penalties except those defined in “Manpower availability service levels” shall not be higher than 20% of Agreed Quarterly Payment for respective quarter ( till 3 quarters) whereas total penalty including penalties towards “Manpower availability service levels” shall not be higher than the Agreed Quarterly Payment for respective quarter. From 4<sup>th</sup> quarter penalty capping except manpower would be consider 30% which could go up quarter by quarter till 50%. After 50% RISL could take decision on an event of default and termination of contract.

**1) Change Requests/ Management**

- a) An institutional mechanism will be set up for taking decisions regarding requests for changes. The Purchase Committee will set up a Change Control Committee with members from the procurement agency and the selected bidder. If it is unable to reach an agreement, the decision of the Purchase Committee will be final.
- b) RISL may at any time, by a written order given to the bidder , make changes within the general scope of the Agreement in any one or more of the following: -
  - Designs, specifications, requirements which software or service to be provided under the Agreement are to be specifically developed and rendered for RISL.
  - The method of deployment, shipping or packing.
  - Schedule for Installation Acceptance.
  - The place of delivery and/or the services to be provided by the bidder.
- c) The change request/ management procedure will follow the following steps: -
  - Identification and documentation of the need for the change - The information related to initiator, initiation date and details of change required and priority of the change will be documented by RISL.
  - Analysis and evaluation of the Change Request - Impact of the change in terms of the estimated effort, changed schedule, cost and the items impacted will be analysed and documented by the bidder.
  - Approval or disapproval of the change request – RISL will approve or disapprove the change requested including the additional payments for software development, quoted man-

month rate shall be used for cost estimation, efforts of all technical resources- project manager, analyst, software developer, testing engineer, database architecture etc shall be taken into account for total man-month estimation to carry out the s/w development resulting from the change request. For all technical resources irrespective of their experience and specialization, the quoted man-month rate shall be used. Efforts of support staff shall not be taken into consideration for this purpose.

- Implementation of the change – The change will be implemented in accordance to the agreed cost, effort, and schedule by the selected bidder.
  - Verification of the change - The change will be verified by RISL on implementation of the change request.
- d) All changes outside the scope of supplies agreed to herein which may have likely financial implications in terms of the overall cost/ time of the project shall be undertaken by SI only after securing the express consent of RISL. In the event that the consent of RISL is not received then the change will not be carried out.
- e) While approving any change request, if required, RISL may ask the bidder to deploy the required resources on-site.
- f) If any such change outside the scope of supplies agreed to herein causes an increase or decrease in cost of, or the time required for, firm's performance of any provisions under the Agreement, equitable adjustments shall be made in the Agreement Price or Delivery Schedule, or both, and the Agreement shall accordingly be amended. Any claims by firm for adjustment under this must be asserted within 30 (thirty) days from the date of SI receiving the RISL change order which shall not be unreasonably withheld or delayed.

### ANNEXURE-1: BILL OF MATERIAL (BoM)

#### ANNEXURE – 1(B): Maintenance & support as per scope of work of following items required to be taken from respective OEM

S. No.	Item Description	Existing Make	Units	Total Quantity
1.	Primary Storage (400 TB Usable NL-SAS disks and 5 TB usable SAS disks)- All Seven DHQ	Netapp	Nos.	67
2.	Secondary Storage (Tape Library)- All Seven DHQ	Quantum	Nos.	7
3.	SAN Switch- All Seven DHQ	Cisco	Nos.	14
4.	Core Router -Data Center- All Seven DHQ	Cisco	Nos.	12
5.	Core Switch-Data Center- All Seven DHQ	Cisco	Nos.	14
6.	Access Switch for video surveillance room, Dial 100 room and FMS/NOC Room- All 33 Districts	Cisco	Nos.	78
7.	42U rack with inbuilt cooling- All Seven DHQ	Vertiv	Nos.	49
8.	Video Management/ Database System Software (Onvif Compliant)- All Seven DHQ	Qognify	Lot	7
9.	VMS Client Unlimited License- All 33 Districts	Qognify	Lot	7
10.	VMS Mobile Clients/Web client /Smart Client unlimited license- All 33 Districts	Qognify	Lot	7
11.	CCC Server Software- All Seven DHQ	Qognify	Lot	7
12.	CCC Client Software (For Workstation) - All 33 Districts	Qognify	Qty	196
13.	EPABX System- All Seven DHQ	Avaya	Nos.	7
14.	CAD application server software- All Seven DHQ	Intergraph	Nos.	7
15.	AVLS Application server software- All Seven DHQ	Intergraph	Nos.	7
16.	Remote user web server software- All Seven DHQ	Intergraph	Nos.	7
17.	Incident Analytics web server software- All Seven DHQ	Intergraph	Nos.	7
18.	Patrolling Server Application Software- All 33 Districts	Intergraph	Nos.	7
19.	Call taker/Dispatcher/Supervisor software- All 33 Districts	Intergraph	Nos.	162
20.	CAD, CCC, Patrolling Mobile Client application on MDT- All 33 Districts	Intergraph	Nos.	242
21.	Unlimited SOS Mobile App license for General Public- All 33 Districts	Intergraph	Lot	7
22.	Radio gateway server software - All Seven DHQ	Pulse Communication	Nos.	7
23.	Radio gateway client software - All Seven DHQ	Pulse Communication	Nos.	32
24.	Helpdesk Tool - All Seven DHQ	Microfocus	Lot	7
25.	Antivirus software for server and desktop- All 33 Districts	Trend Micro	Lot	7
26.	ANPR license (in number of Camera) - Jaipur, Kota, Jodhpur DHQ	Engine	Nos.	48
27.	Speed Violation Detection system (in number of Camera) Jaipur, Kota, Jodhpur DHQ	Engine	Nos.	32
28.	Red light and Stop line violation Detection (in number of Camera) – Jaipur, Kota, Jodhpur DHQ	Engine	Nos.	48
29.	ITMS Sensor- Jaipur DHQ	Engine	Nos.	15
30.	RLVD cameras – Jaipur, Kota, Jodhpur DHQ	Engine	Nos.	32

S. No.	Item Description	Existing Make	Units	Total Quantity
31.	Speed Based Camera (SLVD) – Jaipur, Kota, Jodhpur DHQ	Engine	Nos.	32
32.	60 KVA UPS with battery bank, required cabling and protection - All Seven DHQ	Vertiv	Nos.	14
33.	80 KVA UPS with battery bank, required cabling and protection- All Seven DHQ	Vertiv	Nos.	12
34.	UPS 10 KVA - All 33 Districts	Hitachi	Nos.	31
35.	Outdoor Units: 26 HP (Cooling-Only) 52 Deg. Operation – Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	13
36.	Outdoor Units: 26 HP (Cooling-Only) 52 Deg. Operation- Jodhpur Bikaner Bharatpur DHQ	Daikin	Nos.	13
37.	Outdoor Units: 12HP (Cooling-Only) 52 Deg. Operation- Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	4
38.	Outdoor Units: 12HP (Cooling-Only) 52 Deg. Operation- Jodhpur Bikaner Bharatpur DHQ	Daikin	Nos.	3
39.	Indoor Comfort AC units: Split Unit (1.5 TR) - Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	10
40.	Indoor Comfort AC units: Split Unit (1.5 TR) – Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	9
41.	Indoor Comfort AC units: Split Unit (2 TR) - Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	36
42.	Indoor Comfort AC units: Split Unit (2 TR) - Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	45
43.	Indoor Comfort AC units: Split Unit (2.5 TR) - Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	24
44.	Indoor Comfort AC units: Split Unit (2.5 TR) - Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	13
45.	1.5 TR High Wall Air Conditioners with Indoor Unit, Outdoor Unit, Stabiliser- All 33 Districts	Daikin	Nos.	50
46.	2.0 (2.2) TR High Wall Air Conditioners with Indoor Unit, Outdoor Unit, Stabiliser- All 33 Districts	Daikin	Nos.	29
47.	1.5 Ton Cassette Air Conditioners with Indoor Unit, Outdoor Unit, Stabiliser- All 33 Districts	Daikin	Nos	12
48.	2 (2.4) Ton Cassette Air Conditioners with Indoor Unit, Outdoor Unit, Stabiliser-All 33 Districts	Daikin	Nos.	27
49.	Indoor Comfort AC units: 4-Way Cassette Unit(3TR) - Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	20
50.	Indoor Comfort AC units: 4-Way Cassette Unit(3TR) Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	13
51.	Indoor Comfort AC units: 4-Way Cassette Unit (4TR- Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	24
52.	Indoor Comfort AC units: 4-Way Cassette Unit (4TR) - Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	23
53.	Indoor Comfort AC units: Wireless Remote- Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	44
54.	Indoor Comfort AC units: Wireless Remote- Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	21
55.	Wired Remote - Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	85

S. No.	Item Description	Existing Make	Units	Total Quantity
56.	Wired Remote- Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	75
57.	Signal Receiver (As per requirement)-Jodhpur, Bikaner, Bharatpur DHQ	Daikin	Lot	3
58.	Centralize Remote (Touch Type) - Ajmer Jaipur Kota Udaipur DHQ	O' General	Nos.	4
59.	Centralize Remote (Touch Type) - Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Nos.	3
60.	Imported Fittings- All Seven DHQ	NA	Nos.	217
61.	Supply and installation of low side work includes Drain Pipes, Grills, Refrigerant Piping, Insulation, Control and transmission wiring, Duct Insulation, Grillers/Diffusers, acoustic insulation, cable trays/hangers etc. required for installation of above-mentioned AC's shall be supplied by the selected bidder as per requirement. - Ajmer Jaipur Kota Udaipur DHQ	O' General	Job	5
62.	Supply and installation of low side work includes Drain Pipes, Grills, Refrigerant Piping, Insulation, Control and transmission wiring, Duct Insulation, Grillers/Diffusers, acoustic insulation, cable trays/hangers etc. required for installation of above-mentioned AC's shall be supplied by the selected bidder as per requirement. - Bharatpur, Bikaner, Jodhpur DHQ	Daikin	Job	4
63.	CDR Analysis- All 33 Districts (Police Station level)	Shyam Infotech	Nos.	498
64.	IP Emergency call box server- Jaipur DHQ	Commend	Nos.	1
65.	IP device license - Jaipur DHQ	Commend	Nos.	60
66.	IP loud Horn Speaker- Jaipur DHQ	Commend	Nos.	40
67.	IP Emergency call box- Jaipur DHQ	Commend	Nos.	20

**Note:** Bidder has to submit given compliances on bidder/Lead Bidder letter head as well as OEM letter head for the above-mentioned table items. For any item replacement/update/upgrade bidder need to provide via OEM only during FMS tenure period.

**ANNEXURE -1(C): Following items is required to be taken by SI for Comprehensive Annual Maintenance Contract**

S.no	Item Description	Existing Make	Units	Total Quantity
1.	Blade Chassis- All Seven DHQ	HPE	Nos.	21
2.	Blade Server- All Seven DHQ	HPE	Nos.	336
3.	Rack mount Server- (HP-DL380-24- Core 64 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	HP	Nos	5
4.	Rack mount Server- (HP-DL160-16- Core 64 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	HP	Nos	8
5.	Rack mount Server- (Dell-Power Edge R 630- 2 CPU 48 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	Dell	Nos.	4
6.	Work Station with 3 monitors for video surveillance room and Dial 100 room - All 33 Districts	HP	Nos.	394
7.	Work Station (4 TB Storage) with 3 monitors for forensic room-All Seven DHQ	HP	Nos.	35

S.no	Item Description	Existing Make	Units	Total Quantity
8.	Desktop with 1 monitor for FMS/NOC Room, OIC Room and ITMS Room- All 33 Districts	HP	Nos.	115
9.	Radio Gateway System- All Seven DHQ	HP	Nos.	7
10.	Professional LED Display for video Surveillance room and Forensic Room- All 33 Districts	LG	Nos.	174
11.	Professional LED Display for video Surveillance room and Forensic Room- All 33 Districts	Delta	Nos.	238
12.	Professional LED Display less Bezel-Jaipur DHQ	Delta	Nos.	202
13.	Display Controller for video Surveillance room and Forensic room (4x3)- Jaipur Division	Intellitech	Nos.	2
14.	Display Controller for video Surveillance room and Forensic room (3x3)-Ajmer Division	Intellitech	Nos.	2
15.	Display Controller for video Surveillance room and Forensic room (2x3)-Ajmer and Jaipur Division	Intellitech	Nos.	2
16.	Display Controller for video Surveillance room and Forensic room (2x2)-All 33 Distrtict	Intellitech	Nos.	31
17.	Display Controller for video Surveillance room and Forensic room (2x3) jodhpur	Delta	Nos.	1
18.	Display Controller for video Surveillance room and Forensic room (3x3) VSR Jodhpur	Delta	Nos.	2
19.	Display Controller for video Surveillance room and Forensic room (2x2) Bikaner Jodhpur Bharatpur Division	Delta	Nos.	23
20.	Display Controller for video Surveillance room and Forensic room (2x2)- All 33 Distrtict	Dahua	Nos.	17
21.	Display Controller for video Surveillance room and Forensic room (3x3)- All 33 Distrtict	Dahua	Nos.	12
22.	Display Controller for video Surveillance room and Forensic room (4x3)- All 33 Distrtict	Dahua	Nos.	8
23.	Rugged Vehicle Mounted Mobile Data Terminal/Tablet 10 Inch- All 33 Districts	Panasonic	Nos.	120
24.	Rugged Vehicle Mounted Mobile Data Terminal/Tablet 7 Inch- All 33 Districts	Panasonic	Nos.	122
25.	IP Telephone - All 33 Districts	Avaya	Nos.	443
26.	Table for Video surveillance room, Dial 100 room and Forensic Room with three monitors- All 33 Districts	Pyrotech	Nos.	421
27.	Table for FMS/NOC room, OIC Room and ITMS Room with one monitor- All 33 Districts	Pyrotech	Nos.	83
28.	Meeting Table (6 Person) Approx. Dimensions: 1500(W) X 900(D) X 750(H)-Baran District	Pyrotech	Nos	1
29.	Meeting Table (7 Person) Approx. Dimensions: 2000(W) X 900(D) X 750(H)-Bundi District	Pyrotech	Nos	1
30.	Meeting Table (8 Person) Approx. Dimensions: 1800(W) X 1200(D) X 750(H)-Dholpur District	Pyrotech	Nos	1
31.	Meeting Table (10 Person) Approx. Dimensions: 2400(W) X 1200(D) X 750(H)- Bhilwara, Hanumangarh, Chittorgarh District.	Pyrotech	Nos	3



S.no	Item Description	Existing Make	Units	Total Quantity
32.	Meeting Table (12 Person) Approx. Dimensions: 2700(W) X 900(D) X 750(H)- Alwar District	Pyrotech	Nos	1
33.	Manager Table Approx. Dimensions: Tabletop: 1500(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H) -All 26 Districts	Pyrotech	Nos	14
34.	Manager Table Approx. Dimensions: Table Top : 1500(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H)	Pyrotech	Nos	8
35.	Manager Table Approx. Dimensions: Table Top : 1800(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H)	Pyrotech	Nos	4
36.	Round Table Approx. Dimensions:1000(Dia) X 750(H)- Banswara, Dungarpur District.	Pyrotech	Nos	2
37.	Round Table Approx. Dimensions:750(Dia) X 750(H)- Sikar District	Pyrotech	Nos	1
38.	Computer Table Approx. Dimensions:750(W) X 600(D) X 750(H)- All 26 Districts	Pyrotech	Nos	85
39.	Computer Table Approx. Dimensions:1050(W) X 600(D) X 750(H)- Churu, Chittorgarh District	Pyrotech	Nos	2
40.	White Marker Board-All 26 Districts	Pyrotech	Nos	15
41.	Storage: Approx. Dimensions: 900(W) X 450(D) X 1200(H)	Pyrotech	Nos	57
42.	Storage: Approx. Dimensions: 750(W) X 450(D) X 1200(H)	Pyrotech	Nos	47
43.	Supply & Installation of Overhead/LCD Controller Storage	Pyrotech	Nos	28
44.	Forensic Investigation Software/Video and image Forgery Detection Software- All Seven DHQ	BECIL	Lot	7
45.	Digital Evidence Management for Forensic Investigation-All Seven DHQ	BECIL	Lot	7
46.	Chair – Ajmer, Jaipur, Kota, Udaipur	Feather lite	Nos.	221
47.	Chair- All 33 Districts	Cosmos	Nos.	277
48.	Chair-All 33 Districts	Geeken	Nos.	339
49.	CPU Trolley- Udaipur Division	NA	Nos.	10
50.	Video Analytics-I camera license- All 33 Districts	Qognify	Nos.	1050
51.	Video Analytics-II camera license- All 33 Districts	BECIL	Nos.	1050
52.	Video Analytics-III user license- All Seven DHQ	NEC	Nos.	35
53.	Real time and offline face recognition system (in number of Camera)-Jaipur DHQ	NEC	Nos.	10
54.	Internal CCTV Camera- Ajmer, Jaipur, Kota, Udaipur DHQ	CP Plus	Nos.	60
55.	Internal CCTV Camera -Jodhpur Bharatpur, Bikaner DHQ	Hikvision	Nos.	45
56.	NVR for internal Camera- Ajmer, Jaipur, Kota, Udaipur	CP Plus	Nos.	4

S.no	Item Description	Existing Make	Units	Total Quantity
57.	NVR for internal Camera- Jodhpur Bharatpur, Bikaner DHQ	Hikvision	Nos.	3
58.	Full HD IP Bullet Camera - All 33 Districts	Secura	Nos.	1100
59.	Full HD IP Bullet Camera - All 33 Districts	Hikvision	Nos.	650
60.	Full HD IP Box Camera - All 33 Districts	Secura	Nos.	1400
61.	Full HD IP Box Camera- All 33 Districts	Hikvision	Nos.	1000
62.	Full IP Box Camera (Hikvision) - All 33 Districts	Hikvision	Nos.	3202
63.	Full HD IP PTZ Camera - All 33 Districts	Secura	Nos.	350
64.	Full HD IP PTZ Camera- All 33 Districts	Hikvision	Nos.	200
65.	Full HD IP PTZ Camera- All 33 Districts	Hikvision	Nos.	14
66.	4K Camera- All 33 Districts	Secura	Nos.	70
67.	Dome camera- All 33 Districts	Secura	Nos.	400
68.	Dome camera- All 33 Districts	Hikvision	Nos.	650
69.	Access Switch (4 Port) with SFP- All 33 Districts	Allied	Nos.	4500
70.	Access Switch (4 Port) with SFP- All 33 Districts	CISCO	Nos.	1550
71.	Access Switch (8 Port) - All 33 Districts	Allied	Nos.	500
72.	Point-to-Point Radio- All 33 Districts	Wave Sight	Nos.	300
73.	Point-to-Point Radio- All 33 Districts	Cambium	Nos.	70
74.	Point-to-Multi Point Radio- All 33 Districts	Wave Sight	Nos.	260
75.	Point-to-Multi Point Radio- All 33 Districts	Cambium	Nos.	100
76.	CPE- All 33 Districts	Wave Sight	Nos.	800
77.	CPE- All 33 Districts	Cambium	Nos.	400
78.	NVR 8 Port - All 33 Districts	Secura	Nos.	200
79.	NVR 8 Port- All 33 Districts	Hikvision	Nos.	100
80.	NVR 16 port -All 33 Districts	Secura	Nos.	200
81.	NVR 16 port -All 33 Districts	Hikvision	Nos.	100
82.	Camera Specialized for PCR VAN with NVR– All Seven DHQ	Secura	Nos.	100
83.	DCPS – All 33 Districts	Delta	Nos.	50
84.	Drone– All 33 Districts	Quidich	Nos.	4
85.	Camera Specialized for Prisoner Van with NVR All 33 Districts	Secura	Nos.	3
86.	Network Rack 9U – All 33 Districts	Valrack	Nos.	12
87.	Network Rack 42U– All 33 Districts	Netrack	Nos.	1
88.	Tower 150 Ft. – All 33 Districts	NA	Nos.	1
89.	Supply & Laying of CAT 6 (In KM) with PVC (25MM) – All 33 Districts	NA	Mtrs	40000
90.	Supply & Laying of CAT 6 (In KM) with PVC (50MM) – All 33 Districts	NA	Mtrs	40000
91.	Laying of Electrical Armoured cable and end termination– All 33 Districts	Winpower	Mtrs	225000
92.	IO box with single RJ45– All 33 Districts	NA	Nos.	400
93.	IO box with double RJ45– All 33 Districts	NA	Nos.	50
94.	Point wiring TYPE-I– All 33 Districts	NA	Job	50
95.	Headphone with mic-All Seven DHQ	Accutone	Nos.	133
96.	Min. 6U Wall Mount Network Rack-All Seven DHQ	Rittal	Nos.	32
97.	Access Control System-All Seven DHQ	Morpho & Honeywell	Job	7

S.no	Item Description	Existing Make	Units	Total Quantity
98.	Rodent Repellent System -All Seven DHQ	C Systems	Job	7
99.	Water leakage system in datacentre-All Seven DHQ	C Systems	Job	6
100.	Fire Alarm System -All Seven DHQ	Edward	Job	7
101.	2 KG Portable Fire Extinguisher - All 33 Districts	Vintex	Nos.	36
102.	4 KG Portable Fire Extinguisher- All 33 Districts	Vintex	Nos.	47
103.	DG Set -All Seven DHQ	Cummins	Nos.	26
104.	CAT 6A Cable-All Seven DHQ	Schneider	Mtrs.	16000
105.	Patch panel-All Seven DHQ	Schneider	Nos.	74
106.	CAT 6A I/O-All Seven DHQ	Schneider	Nos.	918
107.	3 feet patch chords-All Seven DHQ	Schneider	Nos.	1000
108.	7 feet Patch Chords-All Seven DHQ	Schneider	Nos.	700
109.	Optical Fibre cable-All Seven DHQ	Schneider	Mtrs.	11000
110.	Empty LIU with option to fit separate Adapter plate- All Seven DHQ	Schneider	Nos.	55
111.	LC SMF Pigtails-All Seven DHQ	Schneider	Nos.	672
112.	LC-LC Duplex Adapter-All Seven DHQ	Schneider	Nos.	336
113.	Splice Trays of minimum 8 fibre core, for Fibre Shelf- All Seven DHQ	Schneider	Nos.	112
114.	LC-LC, SMF Patch Cord 2m-All Seven DHQ	Schneider	Nos.	112
115.	LC-LC, SMF Patch Cord 5m-All Seven DHQ	Schneider	Nos.	224
116.	LaserJet Network Duplex Printer for Video Surveillance room and Dial 100 Control Room-All Seven DHQ	Samsung	Nos.	14
117.	LaserJet Multifunction Network Duplex Printer-All Seven DHQ	Samsung	Nos.	7
118.	Junction Box - All 33 Districts	NA	Nos.	6750
119.	Pole (8 Mtr.) – All 33 Districts	NA	Nos.	6000
120.	Pole (10 Mtr.) – All 33 Districts	NA	Nos.	50
121.	AC 1.5 Ton Voltas 185ZY – All 33 Districts	Voltas	Nos.	10
122.	AC 1.5 Ton- – All 33 Districts	Carrier	Nos.	3
123.	Transceiver SFP for Single Mode fibre- All 33 Districts	Allied	Nos.	3500
124.	4 pair Outdoor double jacket CAT 6A Cable (Bundle of 305 mtrs) - All 33 Districts	NA	Nos.	175
125.	3 core Electrical Cabling- All 33 Districts	NA	Mtrs	5000
126.	4 core Electrical Cabling- All 33 Districts	NA	Mtrs	5000
127.	Main Power Panel (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	NA	Nos.	13
128.	APFC Panel (One each at City Control Command Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	NA	Nos.	14
129.	Cu Earthing for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	NA	Job	14
130.	VTPN/ETPN for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	NA	Job	14

S.no	Item Description	Existing Make	Units	Total Quantity
131.	Electrical lighting fixtures for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	NA	Job	6
132.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 4 numbers of 5 Amp Socket controlled by single 16 Amp. - All Seven Division	NA	Nos.	332
133.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 3 numbers of 5 Amp Socket controlled by single 16 Amp. - All Seven Division	NA	Nos.	86
134.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 4 numbers of 5/15 Amp Socket controlled by single 16 Amp. - All Seven Division	NA	Nos.	89
135.	Point Wiring with 2x6 sq mm+ 1x4 sq mm frls copper wire individual 2 numbers of 5/15 Amp Socket controlled by single 16/25 Amp. S- All Seven Division	NA	Nos.	58
136.	Power Cabling includes required sub distribution panels for switch board, CAC power supply and power DB's, including power cabling to make the system operational. - All Seven Division	NA	Job	7
137.	Access Floor for Video surveillance room, Dial 100 room, ITMS, Power/UPS Room and Forensic Room- All Seven Division	NA	Sq. ft	9000
138.	False Ceiling for Video surveillance room, Dial 100 room, ITMS Room, Power/UPS Room, Forensic Room and other areas- All Seven Division	NA	Sq. ft	5122
139.	Maintenance of Civil and electrical Work - All Seven Division	NA	Sq. ft	125000

Note:

- Bidder need to manage mentioned items as per VOL II specification during FMS tenure period. Bidder could provide same or upgraded make/model considering same technical specifications or better during FMS tenure period.
- The bidder is responsible for operationalizing the entire solution. Any additional equipment required to make the entire solution operational during tenure that shall have to be provided by the selected bidder at no additional cost to the purchaser after submission of bid.
- Selected bidder has to upgrade (whenever required) the existing system without hampering the running service with keeping all kind of dependency like hardware/patch etc. as per the timeline mentioned in Scope of work.

## ANNEXURE-2: TECHNICAL SPECIFICATIONS

Bidder has to submit given compliances on bidder or lead bidder letter head only for the items mentioned below

S. No.	Item Description	We agree to provide Comprehensive Annual Maintenance for 5 years Compliance (Yes/No)
1.	Blade Chassis- All Seven DHQ	
2.	Blade Server- All Seven DHQ	
3.	Rack mount Server- (HP-DL380-24- Core 64 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	
4.	Rack mount Server- (HP-DL160-16- Core 64 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	
5.	Rack mount Server- (Dell-Power Edge R 630- 2 CPU 48 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	
6.	Work Station with 3 monitors for video surveillance room and Dial 100 room - All 33 Districts	
7.	Work Station (4 TB Storage) with 3 monitors for forensic room-All Seven DHQ	
8.	Desktop with 1 monitor for FMS/NOC Room, OIC Room and ITMS Room- All 33 Districts	
9.	Radio Gateway System- All Seven DHQ	
10.	Professional LED Display for video Surveillance room and Forensic Room- All 33 Districts	
11.	Professional LED Display for video Surveillance room and Forensic Room- All 33 Districts	
12.	Professional LED Display less Bezel-Jaipur DHQ	
13.	Display Controller for video Surveillance room and Forensic room (4x3)- Jaipur Division	
14.	Display Controller for video Surveillance room and Forensic room (3x3)-Ajmer Division	
15.	Display Controller for video Surveillance room and Forensic room (2x3)-Ajmer and Jaipur Division	
16.	Display Controller for video Surveillance room and Forensic room (2x2)-All 33 District	
17.	Display Controller for video Surveillance room and Forensic room (2x3) jodhpur	
18.	Display Controller for video Surveillance room and Forensic room (3x3) VSR Jodhpur	
19.	Display Controller for video Surveillance room and Forensic room (2x2) Bikaner Jodhpur Bharatpur Division	
20.	Display Controller for video Surveillance room and Forensic room (2x2)- All 33 District	
21.	Display Controller for video Surveillance room and Forensic room (3x3)- All 33 District	
22.	Display Controller for video Surveillance room and Forensic room (4x3)- All 33 District	
23.	Rugged Vehicle Mounted Mobile Data Terminal/Tablet 10 Inch- All 33 Districts	

S. No.	Item Description	We agree to provide Comprehensive Annual Maintenance for 5 years Compliance (Yes/No)
24.	Rugged Vehicle Mounted Mobile Data Terminal/Tablet 7 Inch- All 33 Districts	
25.	IP Telephone - All 33 Districts	
26.	Table for Video surveillance room, Dial 100 room and Forensic Room with three monitors- All 33 Districts	
27.	Table for FMS/NOC room, OIC Room and ITMS Room with one monitor- All 33 Districts	
28.	Meeting Table (6 Person) Approx. Dimensions: 1500(W) X 900(D) X 750(H)-Baran District	
29.	Meeting Table (7 Person) Approx. Dimensions: 2000(W) X 900(D) X 750(H)-Bundi District	
30.	Meeting Table (8 Person) Approx. Dimensions: 1800(W) X 1200(D) X 750(H)-Dholpur District	
31.	Meeting Table (10 Person) Approx. Dimensions: 2400(W) X 1200(D) X 750(H)- Bhilwara, Hanumangarh, Chittorgarh District.	
32.	Meeting Table (12 Person) Approx. Dimensions: 2700(W) X 900(D) X 750(H)- Alwar District	
33.	Manager Table Approx. Dimensions: Tabletop: 1500(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H) -All 26 Districts	
34.	Manager Table Approx. Dimensions: Table Top : 1500(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H)	
35.	Manager Table Approx. Dimensions: Table Top : 1800(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H)	
36.	Round Table Approx. Dimensions:1000(Dia) X 750(H)- Banswara, Dungarpur District.	
37.	Round Table Approx. Dimensions:750(Dia) X 750(H)-Sikar District	
38.	Computer Table Approx. Dimensions:750(W) X 600(D) X 750(H)- All 26 Districts	
39.	Computer Table Approx. Dimensions:1050(W) X 600(D) X 750(H)- Churu, Chittorgarh District	
40.	White Marker Board-All 26 Districts	
41.	Storage: Approx. Dimensions: 900(W) X 450(D) X 1200(H)	
42.	Storage: Approx. Dimensions: 750(W) X 450(D) X 1200(H)	
43.	Supply & Installation of Overhead/LCD Controller Storage	
44.	Forensic Investigation Software/Video and image Forgery Detection Software- All Seven DHQ	
45.	Digital Evidence Management for Forensic Investigation-All Seven DHQ	
46.	Chair – Ajmer, Jaipur, Kota, Udaipur	
47.	Chair- All 33 Districts	
48.	Chair-All 33 Districts	
49.	CPU Trolley- Udaipur Division	
50.	Video Analytics-I camera license- All 33 Districts	

S. No.	Item Description	We agree to provide Comprehensive Annual Maintenance for 5 years Compliance (Yes/No)
51.	Video Analytics-II camera license- All 33 Districts	
52.	Video Analytics-III user license- All Seven DHQ	
53.	Real time and offline face recognition system (in number of Camera)-Jaipur DHQ	
54.	Internal CCTV Camera- Ajmer, Jaipur, Kota, Udaipur DHQ	
55.	Internal CCTV Camera -Jodhpur Bharatpur, Bikaner DHQ	
56.	NVR for internal Camera- Ajmer, Jaipur, Kota, Udaipur	
57.	NVR for internal Camera- Jodhpur Bharatpur, Bikaner DHQ	
58.	Full HD IP Bullet Camera - All 33 Districts	
59.	Full HD IP Bullet Camera - All 33 Districts	
60.	Full HD IP Box Camera - All 33 Districts	
61.	Full HD IP Box Camera- All 33 Districts	
62.	Full IP Box Camera (Hikvision) - All 33 Districts	
63.	Full HD IP PTZ Camera - All 33 Districts	
64.	Full HD IP PTZ Camera- All 33 Districts	
65.	Full HD IP PTZ Camera- All 33 Districts	
66.	4K Camera- All 33 Districts	-
67.	Dome camera- All 33 Districts	
68.	Dome camera- All 33 Districts	
69.	Access Switch (4 Port) with SFP- All 33 Districts	
70.	Access Switch (4 Port) with SFP- All 33 Districts	
71.	Access Switch (8 Port) - All 33 Districts	
72.	Point-to-Point Radio- All 33 Districts	
73.	Point-to-Point Radio- All 33 Districts	
74.	Point-to-Multi Point Radio- All 33 Districts	
75.	Point-to-Multi Point Radio- All 33 Districts	
76.	CPE- All 33 Districts	
77.	CPE- All 33 Districts	
78.	NVR 8 Port - All 33 Districts	
79.	NVR 8 Port- All 33 Districts	
80.	NVR 16 port -All 33 Districts	
81.	NVR 16 port -All 33 Districts	
82.	Camera Specialized for PCR VAN with NVR– All Seven DHQ	
83.	DCPS- – All 33 Districts	
84.	Drone– All 33 Districts	
85.	Camera Specialized for Prisoner Van with NVR All 33 Districts	
86.	Network Rack 9U – All 33 Districts	
87.	Network Rack 42U– All 33 Districts	
88.	Tower 150 Ft. – All 33 Districts	
89.	Supply & Laying of CAT 6 (In KM) with PVC (25MM) – All 33 Districts	
90.	Supply & Laying of CAT 6 (In KM) with PVC (50MM) – All 33 Districts	
91.	Laying of Electrical Armoured cable and end termination– All 33 Districts	
92.	IO box with single RJ45– All 33 Districts	

<b>S. No.</b>	<b>Item Description</b>	<b>We agree to provide Comprehensive Annual Maintenance for 5 years Compliance (Yes/No)</b>
93.	IO box with double RJ45– All 33 Districts	
94.	Point wiring TYPE-I– All 33 Districts	
95.	Headphone with mic-All Seven DHQ	
96.	Min. 6U Wall Mount Network Rack-All Seven DHQ	
97.	Access Control System-All Seven DHQ	
98.	Rodent Repellent System -All Seven DHQ	
99.	Water leakage system in datacentre-All Seven DHQ	
100.	Fire Alarm System -All Seven DHQ	
101.	2 KG Portable Fire Extinguisher - All 33 Districts	
102.	4 KG Portable Fire Extinguisher- All 33 Districts	
103.	DG Set -All Seven DHQ	
104.	CAT 6A Cable-All Seven DHQ	
105.	Patch panel-All Seven DHQ	
106.	CAT 6A I/O-All Seven DHQ	
107.	3 feet patch chords-All Seven DHQ	
108.	7 feet Patch Chords-All Seven DHQ	
109.	Optical Fibre cable-All Seven DHQ	
110.	Empty LIU with option to fit separate Adapter plate-All Seven DHQ	
111.	LC SMF Pigtails-All Seven DHQ	
112.	LC-LC Duplex Adapter-All Seven DHQ	
113.	Splice Trays of minimum 8 fibre core, for Fibre Shelf-All Seven DHQ	
114.	LC-LC, SMF Patch Cord 2m-All Seven DHQ	
115.	LC-LC, SMF Patch Cord 5m-All Seven DHQ	
116.	LaserJet Network Duplex Printer for Video Surveillance room and Dial 100 Control Room-All Seven DHQ	
117.	LaserJet Multifunction Network Duplex Printer-All Seven DHQ	
118.	Junction Box - All 33 Districts	
119.	Pole (8 Mtr.) – All 33 Districts	
120.	Pole (10 Mtr.) – All 33 Districts	
121.	AC 1.5 Ton Voltas 185ZY – All 33 Districts	
122.	AC 1.5 Ton- – All 33 Districts	
123.	Transceiver SFP for Single Mode fibre- All 33 Districts	
124.	4 pair Outdoor double jacket CAT 6A Cable (Bundle of 305 mtrs) - All 33 Districts	
125.	3 core Electrical Cabling- All 33 Districts	
126.	4 core Electrical Cabling- All 33 Districts	
127.	Main Power Panel (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	
128.	APFC Panel (One each at City Control Command Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	
129.	Cu Earthing for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	



<b>S. No.</b>	<b>Item Description</b>	<b>We agree to provide Comprehensive Annual Maintenance for 5 years Compliance (Yes/No)</b>
130.	VTPN/ETPN for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	
131.	Electrical lighting fixtures for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	
132.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 4 numbers of 5 Amp Socket controlled by single 16 Amp. - All Seven Division	
133.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 3 numbers of 5 Amp Socket controlled by single 16 Amp. - All Seven Division	
134.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 4 numbers of 5/15 Amp Socket controlled by single 16 Amp. - All Seven Division	
135.	Point Wiring with 2x6 sq mm+ 1x4 sq mm frls copper wire individual 2 numbers of 5/15 Amp Socket controlled by single 16/25 Amp. S- All Seven Division	
136.	Power Cabling includes required sub distribution panels for switch board, CAC power supply and power DB's, including power cabling to make the system operational. - All Seven Division	
137.	Access Floor for Video surveillance room, Dial 100 room, ITMS, Power/UPS Room and Forensic Room- All Seven Division	
138.	False Ceiling for Video surveillance room, Dial 100 room, ITMS Room, Power/UPS Room, Forensic Room and other areas- All Seven Division	
139.	Maintenance of Civil and electrical Work - All Seven Division	

**ANNEXURE-3: PRE-BID QUERIES FORMAT (to be filled by the bidder)**

**Name of the Company/Firm:** \_\_\_\_\_  
**Bidding Document Fee Receipt No.** \_\_\_\_\_ **Dated** \_\_\_\_\_ **for Rs.** \_\_\_\_\_/-

**Name of Person(s) Representing the Company/ Firm:**

Name of Person(s) Representing the Company/ Firm:			
Name of Person	Designation	Email-ID(s)	Tel. Nos. & Fax Nos.

**Company/Firm Contacts:**

Contact Person(s)	Address for Correspondence	Email-ID(s)	Tel. Nos. & Fax Nos.

**Query / Clarification Sought:**

S. No.	RFP Page No.	RFP Rule No.	Rule Details	Query/ Suggestion/ Clarification

*Note: - Queries must be strictly submitted only in the prescribed format (.XLS/ .XLSX/ .ODF). Queries not submitted in the prescribed format will not be considered/ responded at all by the procuring entity. Also, kindly attach the coloured scanned copy of the receipt towards the submission of the bidding/ tender document fee.*



**ANNEXURE-4: BIDDER'S AUTHORIZATION CERTIFICATE {to be filled by the bidder}**

To,  
{Procuring entity},  
\_\_\_\_\_  
\_\_\_\_\_

I/ We {Name/ Designation} hereby declare/ certify that {Name/ Designation} is hereby authorized to sign relevant documents on behalf of the company/ firm in dealing with NIB reference No. \_\_\_\_\_ dated. He/ She is also authorized to attend meetings & submit technical & commercial information/ clarifications as may be required by you in the course of processing the Bid. For the purpose of validation, his/ her verified signatures are as under.

Thanking you,

Name of the Bidder: -  
Authorised Signatory: -  
Seal of the Organization: -  
Date: \_\_\_\_\_  
Place: \_\_\_\_\_

Verified Signature:

**ANNEXURE-5: SELF-DECLARATION {to be filled by the bidder}**

To,  
{Procuring entity},

\_\_\_\_\_

In response to the NIB Ref. No. \_\_\_\_\_ dated \_\_\_\_\_ for {Project Title}, as an Owner/ Partner/ Director/ Auth. Sign. of \_\_\_\_\_, I/ We hereby declare that presently our Company/ firm \_\_\_\_\_, at the time of bidding, :-

- a) possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entity;
- b) have fulfilled my/ our obligation to pay such of the taxes payable to the Union and the State Government or any local authority as specified in the Bidding Document;
- c) is having unblemished record and is not declared ineligible for corrupt & fraudulent practices either indefinitely or for a particular period of time by any State/ Central government/ PSU/ UT.
- d) does not have any previous transgressions with any entity in India or any other country during the last three years
- e) does not have any debarment by any other procuring entity
- f) is not insolvent in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and is not the subject of legal proceedings for any of the foregoing reasons;
- g) does not have, and our directors and officers not have been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
- h) does not have a conflict of interest as mentioned in the bidding document which materially affects the fair competition.
- i) will comply with the code of integrity as specified in the bidding document.
- j) the specifications of Hardware & Software which I/ We have mentioned in the Technical bid, and which I/ We shall supply if I/ We am/ are awarded with the work, are in conformity with the minimum specifications of the bidding document and that there are no deviations of any kind from the requirement specifications.
- k) submit our token of unconditional acceptance to all the terms & conditions of the bidding document without any deviations

If this declaration is found to be incorrect then without prejudice to any other action that may be taken as per the provisions of the applicable Act and Rules thereto prescribed by GoR, my/ our security may be forfeited in full and our bid, to the extent accepted, may be cancelled.

Thanking you,

Name of the Bidder: -

Authorised Signatory: -

Seal of the Organization: -

Date:

Place:

**ANNEXURE-6: CERTIFICATE OF CONFORMITY/ NO DEVIATION**  
**{to be filled by the bidder}**

To,  
{Procuring Entity},

\_\_\_\_\_ ,

**CERTIFICATE**

This is to certify that, the specifications of Hardware & Software which I/ We have mentioned in the Technical bid, and which I/ We shall supply if I/ We am/ are awarded with the work, are in conformity with the minimum specifications of the bidding document and that there are no deviations of any kind from the requirement specifications.

Also, I/ we have thoroughly read the bidding document and by signing this certificate, we hereby submit our token of unconditional acceptance to all the terms & conditions of the bidding document without any deviations.

I/ We also certify that the price I/ we have quoted is inclusive of all the cost factors involved in the end-to- end implementation and execution of the project, to meet the desired Standards set out in the bidding Document.

Thanking you,

Name of the Bidder: -

Authorised Signatory: -

Seal of the Organization: -

Date:

Place:



**ANNEXURE-7: DECLARATION BY BIDDER {to signed by selected bidder}**

I/ We declare that I am/we are bonafide/ Manufacturers/ Whole Sellers/ Sole distributor/ Authorised dealer/ dealers/ sole selling/ Marketing agent in the goods/ stores/ equipment for which I/ We have quoted.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the bid, if any, to the extent accepted may be cancelled.

Name of the Bidder: -

Authorised Signatory: -

Seal of the Organization: -

Date:

Place:

**ANNEXURE-8: MANUFACTURER'S AUTHORIZATION FORM (MAF) {to be filled by the OEMs}**

**(Indicative Format)**

To,  
{Procuring Entity},

\_\_\_\_\_ ,

Subject: Issue of the Manufacturer's Authorisation Form (MAF) Reference: NIB/ RFP Ref. No. \_\_\_\_\_ dated \_\_\_\_\_

Sir,

We {name and address of the OEM} who are established and reputed original equipment manufacturers (OEMs) having factories at {addresses of manufacturing location} do hereby authorize {M/s \_\_\_\_\_} who is our {Distributor/ Channel Partner/ Retailer/ Others <please specify>} to bid, negotiate and conclude the contract with you against the aforementioned reference for the following Hardware/ Software manufactured by us: -

*{OEM will mention the details of all the proposed product(s) with their make/ model.}*

We undertake to provide OEM Warranty for the offered Hardware/ Software, as mentioned above, for five Years.

We hereby confirm that the offered Hardware/ Software, as mentioned above, is complying to the respective technical specification mentioned in RFP.

We hereby confirm that the offered Hardware/ Software is not likely to be declared as End-of- Service/ Support within next five years from the date of bid submission.

We hereby confirm that the offered Hardware/ Software is complying to the respective technical specification mentioned in RFP without any deviations.

Yours faithfully,

For and on behalf of M/s (Name of the manufacturer)

(Authorized Signatory)

Name, Designation & Contact No.:

Address: \_\_\_\_\_

Seal:

**ANNEXURE-9: UNDERTAKING ON AUTHENTICITY OF COMPUTER EQUIPMENTS**

{to be filled by the bidder (On Rs. 100/- non-judicial stamp paper)}

To,  
{Procuring Entity},

Reference: NIB No. :      Dated:

This has reference to the items being supplied/quoted to you vide bid ref. no. \_\_\_\_\_ dated \_\_\_\_\_  
We hereby undertake that all the components/parts/assembly/ software used in the equipment shall be genuine, original and new components /parts/assembly/software from respective OEMs of the products and that no refurbished/duplicate/ second hand components/ parts/ assembly/ software are being used or shall be used. In respect of licensed operating system, we undertake that the same shall be supplied along with the authorized license certificate with our name/logo. Also, that it shall be sourced from the authorized source for use in India.

In case, we are found not complying with above at the time of delivery or during installation, for the equipment already billed, we agree to take back the equipment already supplied at our cost and return any amount paid to us by you in this regard and that you will have the right to forfeit our Bid Security/ SD/ PSD for this bid or take suitable action against us.

Authorized Signatory Name:

Designation:





**ANNEXURE 10: FINANCIAL BID COVER LETTER &FORMAT COVER LETTER**  
{to be submitted by the bidder on his Letter head}

To,  
{Procuring Entity},

\_\_\_\_\_

Reference: NIB No. :     Dated:   Dear Sir,

We, the undersigned bidder, Having read & examined in detail, the Bidding Document, the receipt of which is hereby duly acknowledged, I/ we, the undersigned, offer to supply/ work as mentioned in the Scope of the work, Bill of Material, Technical specifications, Service Level Standards & in conformity with the said bidding document for the same.

I / We undertake that the prices are in conformity with the specifications prescribed. The quote/ price are inclusive of all cost likely to be incurred for executing this work. The prices are inclusive of all type of govt. taxes/duties as mentioned in the financial bid (BoQ).

I / We undertake, if our bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the schedule of Requirements.

I/We undertake to successfully operationalize the entire solution as per scope of work mentioned in the RFP document. I understand that initially the solution has been designed for 10,000 cameras. Later during the FMS period, the cameras are likely to be increased up to 21,500. I/We understand that any additional hardware and software required to make the entire solution operational as per required terms and condition shall have to be provided by us.

I/ We hereby declare that in case the contract is awarded to us, we shall submit the contract performance guarantee as prescribed in the bidding document.

I / We agree to abide by this bid for a period of    days after the last date fixed for bid submission and it shall remain binding upon us and may be accepted at any time before the expiry of that period. Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of award shall constitute a binding Contract between us.

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

We understand that you are not bound to accept the lowest or any bid you may receive.

We agree to all the terms & conditions as mentioned in the bidding document and submit that we have not submitted any deviations in this regard.

Date:

Authorized Signatory Name:

Designation:

**Indicative Financial Bid Format**

[to be submitted by the bidder only in BoQ format (.XLS) available at e-Procurement portal]

<b>Tender Inviting Authority: Managing Director, RISL</b>										
<b>Name of Work:</b>										
<b>Contract No:</b>										
<b>Bidder Name:</b>										
<b><u>PRICE SCHEDULE</u></b>										
<b><u>(This BOQ template must not be modified/ replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</u></b>										
NUM BER #	TEXT #	NUMB ER #	TEXT #	NUMBE R #	NUMBE R #	NUMBE R #	NUMBE R #	NUMBE R #	NUMBE R #	TEXT #
Sl. No.	Item Description	Quanti ty	Units	Yearly Unit Rate includin g all taxes & levies but excludin g GST (In Rs.)	GST (in %)	GST (in Amount)	Yearly Unit rate includin g all taxes & levies	Total Years	Total amount includin g all taxes & levies (In Rs.)	Total amount includi ng all taxes & levies (In Words)
1	2	3	4	5	6	7	8=5+7	9	10=3*8* 9	10
1.	Primary Storage (400 TB Usable NL-SAS disks and 5 TB usable SAS disks)- All Seven DHQ	67	Nos.							
2.	Secondary Storage (Tape Library)- All Seven DHQ	7	Nos.							

3.	SAN Switch- All Seven DHQ	14	Nos.							
4.	Core Router -Data Center- All Seven DHQ	12	Nos.							
5.	Core Switch-Data Center- All Seven DHQ	14	Nos.							
6.	Access Switch for video surveillance room, Dial 100 room and FMS/NOC Room- All 33 Districts	78	Nos.							
7.	42U rack with inbuilt cooling- All Seven DHQ	49	Nos.							
8.	Video Management/ Database System Software (Onvif Compliant)- All Seven DHQ	7	Lot							
9.	VMS Client Unlimited License- All 33 Districts	7	Lot							
10.	VMS Mobile Clients/Web client /Smart Client unlimited license- All 33 Districts	7	Lot							
11.	CCC Server Software- All Seven DHQ	7	Lot							
12.	CCC Client Software (For Workstation) - All 33 Districts	196	Nos.							
13.	EPABX System- All Seven DHQ	7	Nos.							
14.	CAD application server software- All Seven DHQ	7	Nos.							

15.	AVLS Application server software- All Seven DHQ	7	Nos.							
16.	Remote user web server software- All Seven DHQ	7	Nos.							
17.	Incident Analytics web server software- All Seven DHQ	7	Nos.							
18.	Patrolling Server Application Software- All 33 Districts	7	Nos.							
19.	Call taker/Dispatcher/Supervisor software- All 33 Districts	162	Nos.							
20.	CAD, CCC, Patrolling Mobile Client application on MDT- All 33 Districts	242	Nos.							
21.	Unlimited SOS Mobile App license for General Public- All 33 Districts	7	Lot							
22.	Radio gateway server software - All Seven DHQ	7	Nos.							
23.	Radio gateway client software - All Seven DHQ	32	Nos.							
24.	Helpdesk Tool - All Seven DHQ	7	Lot							
25.	Antivirus software for server and desktop- All 33 Districts	7	Lot							
26.	ANPR license (in number of Camera) - Jaipur, Kota, Jodhpur DHQ	48	Nos.							
27.	Speed Violation Detection system (in number of Camera) Jaipur, Kota, Jodhpur DHQ	32	Nos.							

28.	Red light and Stop line violation Detection (in number of Camera) – Jaipur, Kota, Jodhpur DHQ	48	Nos.							
29.	ITMS Sensor- Jaipur DHQ	15	Nos.							
30.	RLVD cameras – Jaipur, Kota, Jodhpur DHQ	32	Nos.							
31.	Speed Based Camera (SLVD) – Jaipur, Kota, Jodhpur DHQ	32	Nos.							
32.	60 KVA UPS with battery bank, required cabling and protection - All Seven DHQ	14	Nos.							
33.	80 KVA UPS with battery bank, required cabling and protection- All Seven DHQ	12	Nos.							
34.	UPS 10 KVA - All 33 Districts	31	Nos.							
35.	Outdoor Units: 26 HP (Cooling-Only) 52 Deg. Operation – Ajmer Jaipur Kota Udaipur DHQ	13	Nos.							
36.	Outdoor Units: 26 HP (Cooling-Only) 52 Deg. Operation- Jodhpur Bikaner Bharatpur DHQ	13	Nos.							
37.	Outdoor Units: 12HP (Cooling-Only) 52 Deg. Operation- Ajmer Jaipur Kota Udaipur DHQ	4	Nos.							
38.	Outdoor Units: 12HP (Cooling-Only) 52 Deg.	3	Nos.							

	Operation- Jodhpur Bikaner Bharatpur DHQ									
39.	Indoor Comfort AC units: Split Unit (1.5 TR) - Ajmer Jaipur Kota Udaipur DHQ	10	Nos.							
40.	Indoor Comfort AC units: Split Unit (1.5 TR) – Bharatpur, Bikaner, Jodhpur DHQ	9	Nos.							
41.	Indoor Comfort AC units: Split Unit (2 TR) - Ajmer Jaipur Kota Udaipur DHQ	36	Nos.							
42.	Indoor Comfort AC units: Split Unit (2 TR) - Bharatpur, Bikaner, Jodhpur DHQ	45	Nos.							
43.	Indoor Comfort AC units: Split Unit (2.5 TR) - Ajmer Jaipur Kota Udaipur DHQ	24	Nos.							
44.	Indoor Comfort AC units: Split Unit (2.5 TR) - Bharatpur, Bikaner, Jodhpur DHQ	13	Nos.							
45.	1.5 TR High Wall Air Conditioners with Indoor Unit, Outdoor Unit, Stabiliser- All 33 Districts	50	Nos.							
46.	2.0 (2.2) TR High Wall Air Conditioners with Indoor Unit, Outdoor Unit, Stabiliser- All 33 Districts	29	Nos.							
47.	1.5 Ton Cassette Air Conditioners with Indoor	12	Nos							

	Unit, Outdoor Unit, Stabiliser- All 33 Districts									
48.	2 (2.4) Ton Cassette Air Conditioners with Indoor Unit, Outdoor Unit, Stabiliser- All 33 Districts	27	Nos.							
49.	Indoor Comfort AC units: 4- Way Cassette Unit(3TR) - Ajmer Jaipur Kota Udaipur DHQ	20	Nos.							
50.	Indoor Comfort AC units: 4- Way Cassette Unit(3TR) Bharatpur, Bikaner, Jodhpur DHQ	13	Nos.							
51.	Indoor Comfort AC units: 4- Way Cassette Unit (4TR- Ajmer Jaipur Kota Udaipur DHQ	24	Nos.							
52.	Indoor Comfort AC units: 4- Way Cassette Unit (4TR) - Bharatpur, Bikaner, Jodhpur DHQ	23	Nos.							
53.	Indoor Comfort AC units: Wireless Remote- Ajmer Jaipur Kota Udaipur DHQ	51	Nos.							
54.	Indoor Comfort AC units: Wireless Remote- Bharatpur, Bikaner, Jodhpur DHQ	21	Nos.							
55.	Wired Remote - Ajmer Jaipur Kota Udaipur DHQ	66	Nos.							
56.	Wired Remote- Bharatpur, Bikaner, Jodhpur DHQ	75	Nos.							

57.	Signal Receiver (As per requirement)-Jodhpur, Bikaner, Bharatpur DHQ	3	Lot							
58.	Centralize Remote (Touch Type) - Ajmer Jaipur Kota Udaipur DHQ	4	Nos.							
59.	Centralize Remote (Touch Type) - Bharatpur, Bikaner, Jodhpur DHQ	3	Nos.							
60.	Imported Fittings- All Seven DHQ	217	Nos.							
61.	Supply and installation of low side work includes Drain Pipes, Grills, Refrigerant Piping, Insulation, Control and transmission wiring, Duct Insulation, Grillers/Diffusers, acoustic insulation, cable trays/hangers etc. required for installation of above-mentioned AC's shall be supplied by the selected bidder as per requirement. - Ajmer Jaipur Kota Udaipur DHQ	5	Job							
62.	Supply and installation of low side work includes Drain Pipes, Grills, Refrigerant Piping, Insulation, Control and transmission wiring, Duct Insulation,	4	Job							



	Grillers/Diffusers, acoustic insulation, cable trays/hangers etc. required for installation of above-mentioned AC's shall be supplied by the selected bidder as per requirement. - Bharatpur, Bikaner, Jodhpur DHQ									
63.	CDR Analysis- All 33 Districts (Police Station level)	498	Nos.							
64.	IP Emergency call box server- Jaipur DHQ	1	Nos.							
65.	IP device license - Jaipur DHQ	60	Nos.							
66.	IP loud Horn Speaker- Jaipur DHQ	40	Nos.							
67.	IP Emergency call box- Jaipur DHQ	20	Nos.							
68.	Blade Chassis- All Seven DHQ	21	Nos.							
69.	Blade Server- All Seven DHQ	336	Nos.							
70.	Rack mount Server- (HP-DL380-24- Core 64 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	5	Nos							
71.	Rack mount Server- (HP-DL160-16- Core 64 GB RAM) Ajmer, Jaipur, Kota, Udaipur DHQ	8	Nos.							
72.	Rack mount Server- (Dell-Power Edge R 630- 2 CPU 48 GB RAM)	4	Nos.							

	Ajmer, Jaipur, Kota, Udaipur DHQ									
73.	Work Station with 3 monitors for video surveillance room and Dial 100 room - All 33 Districts	394	Nos.							
74.	Work Station (4 TB Storage) with 3 monitors for forensic room-All Seven DHQ	35	Nos.							
75.	Desktop with 1 monitor for FMS/NOC Room, OIC Room and ITMS Room- All 33 Districts	115	Nos.							
76.	Radio Gateway System- All Seven DHQ	7	Nos.							
77.	Professional LED Display for video Surveillance room and Forensic Room- All 33 Districts	174	Nos.							
78.	Professional LED Display for video Surveillance room and Forensic Room- All 33 Districts	238	Nos.							
79.	Professional LED Display less Bezel-Jaipur DHQ	202	Nos.							
80.	Display Controller for video Surveillance room and Forensic room (4x3)- Jaipur Division	2	Nos.							
81.	Display Controller for video Surveillance room and	2	Nos.							

	Forensic room (3x3)-Ajmer Division									
82.	Display Controller for video Surveillance room and Forensic room (2x3)-Ajmer and Jaipur Division	2	Nos.							
83.	Display Controller for video Surveillance room and Forensic room (2x2)-All 33 Distrtict	31	Nos.							
84.	Display Controller for video Surveillance room and Forensic room (2x3) jodhpur	1	Nos.							
85.	Display Controller for video Surveillance room and Forensic room (3x3) VSR Jodhpur	2	Nos.							
86.	Display Controller for video Surveillance room and Forensic room (2x2) Bikaner Jodhpur Bharatpur Division	23	Nos.							
87.	Display Controller for video Surveillance room and Forensic room (2x2)- All 33 Distrtict	17	Nos.							
88.	Display Controller for video Surveillance room and Forensic room (3x3)- All 33 Distrtict	12	Nos.							
89.	Display Controller for video Surveillance room and	8	Nos.							

	Forensic room (4x3)- All 33 District									
90.	Rugged Vehicle Mounted Mobile Data Terminal/Tablet 10 Inch- All 33 Districts	120	Nos.							
91.	Rugged Vehicle Mounted Mobile Data Terminal/Tablet 7 Inch- All 33 Districts	122	Nos.							
92.	IP Telephone - All 33 Districts	443	Nos.							
93.	Table for Video surveillance room, Dial 100 room and Forensic Room with three monitors- All 33 Districts	421	Nos.							
94.	Table for FMS/NOC room, OIC Room and ITMS Room with one monitor- All 33 Districts	83	Nos.							
95.	Meeting Table (6 Person) Approx. Dimensions: 1500(W) X 900(D) X 750(H)-Baran District	1	Nos							
96.	Meeting Table (7 Person) Approx. Dimensions: 2000(W) X 900(D) X 750(H)-Bundi District	1	Nos							
97.	Meeting Table (8 Person) Approx. Dimensions: 1800(W) X 1200(D) X 750(H)-Dholpur District	1	Nos							

98.	Meeting Table (10 Person) Approx. Dimensions: 2400(W) X 1200(D) X 750(H)- Bhilwara, Hanumangarh, Chittorgarh District.	3	Nos							
99.	Meeting Table (12 Person) Approx. Dimensions: 2700(W) X 900(D) X 750(H)- Alwar District	1	Nos							
100.	Manager Table Approx. Dimensions: Tabletop: 1500(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H) -All 26 Districts	14	Nos							
101.	Manager Table Approx. Dimensions: Table Top : 1500(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H)	8	Nos							
102.	Manager Table Approx. Dimensions: Table Top : 1800(W) X 750(D) X 750(H) Side Storage : 900(W) X 450(D) X 750(H)	4	Nos							
103.	Round Table Approx. Dimensions:1000(Dia) X 750(H)- Banswara, Dungarpur District.	2	Nos							

104.	Round Table Approx. Dimensions:750(Dia) X 750(H)-Sikar District	1	Nos							
105.	Computer Table Approx. Dimensions:750(W) X 600(D) X 750(H)- All 26 Districts	85	Nos							
106.	Computer Table Approx. Dimensions:1050(W) X 600(D) X 750(H)- Churu, Chittorgarh District	2	Nos							
107.	White Marker Board-All 26 Districts	15	Nos							
108.	Storage: Approx. Dimensions: 900(W) X 450(D) X 1200(H)	57	Nos							
109.	Storage: Approx. Dimensions: 750(W) X 450(D) X 1200(H)	47	Nos							
110.	Supply & Installation of Overhead/LCD Controller Storage	28	Nos							
111.	Forensic Investigation Software/Video and image Forgery Detection Software-All Seven DHQ	7	Lot							
112.	Digital Evidence Management for Forensic Investigation-All Seven DHQ	7	Lot							
113.	Chair – Ajmer, Jaipur, Kota, Udaipur	221	Nos.							

114.	Chair- All 33 Districts	277	Nos.							
115.	Chair-All 33 Districts	339	Nos.							
116.	CPU Trolley- Udaipur Division	10	Nos.							
117.	Video Analytics-I camera license- All 33 Districts	1050	Nos.							
118.	Video Analytics-II camera license- All 33 Districts	1050	Nos.							
119.	Video Analytics-III user license- All Seven DHQ	35	Nos.							
120.	Real time and offline face recognition system (in number of Camera)-Jaipur DHQ	10	Nos.							
121.	Internal CCTV Camera- Ajmer, Jaipur, Kota, Udaipur DHQ	60	Nos.							
122.	Internal CCTV Camera - Jodhpur Bharatpur, Bikaner DHQ	45	Nos.							
123.	NVR for internal Camera- Ajmer, Jaipur, Kota, Udaipur	4	Nos.							
124.	NVR for internal Camera- Jodhpur Bharatpur, Bikaner DHQ	3	Nos.							
125.	Full HD IP Bullet Camera - All 33 Districts	1100	Nos.							

126.	Full HD IP Bullet Camera - All 33 Districts	650	Nos.							
127.	Full HD IP Box Camera - All 33 Districts	1400	Nos.							
128.	Full HD IP Box Camera- All 33 Districts	1000	Nos.							
129.	Full IP Box Camera (Hikvision) - All 33 Districts	3202	Nos.							
130.	Full HD IP PTZ Camera - All 33 Districts	350	Nos.							
131.	Full HD IP PTZ Camera- All 33 Districts	200	Nos.							
132.	Full HD IP PTZ Camera- All 33 Districts	14	Nos.							
133.	4K Camera- All 33 Districts	70	Nos.							
134.	Dome camera- All 33 Districts	400	Nos.							
135.	Dome camera- All 33 Districts	650	Nos.							
136.	Access Switch (4 Port) with SFP- All 33 Districts	4500	Nos.							
137.	Access Switch (4 Port) with SFP- All 33 Districts	1550	Nos.							
138.	Access Switch (8 Port) - All 33 Districts	500	Nos.							
139.	Point-to-Point Radio- All 33 Districts	300	Nos.							
140.	Point-to-Point Radio- All 33 Districts	70	Nos.							



141.	Point-to-Multi Point Radio- All 33 Districts	260	Nos.							
142.	Point-to-Multi Point Radio- All 33 Districts	100	Nos.							
143.	CPE- All 33 Districts	800	Nos.							
144.	CPE- All 33 Districts	400	Nos.							
145.	NVR 8 Port - All 33 Districts	200	Nos.							
146.	NVR 8 Port- All 33 Districts	100	Nos.							
147.	NVR 16 port -All 33 Districts	200	Nos.							
148.	NVR 16 port -All 33 Districts	100	Nos.							
149.	Camera Specialized for PCR VAN with NVR– All Seven DHQ	100	Nos.							
150.	DCPS- – All 33 Districts	50	Nos.							
151.	Drone– All 33 Districts	4	Nos.							
152.	Camera Specialized for Prisoner Van with NVR All 33 Districts	3	Nos.							
153.	Network Rack 9U – All 33 Districts	12	Nos.							
154.	Network Rack 42U– All 33 Districts	1	Nos.							
155.	Tower 150 Ft. – All 33 Districts	1	Nos.							

156.	Supply & Laying of CAT 6 (In KM) with PVC (25MM) – All 33 Districts	40000	Mtrs							
157.	Supply & Laying of CAT 6 (In KM) with PVC (50MM) – All 33 Districts	40000	Mtrs							
158.	Laying of Electrical Armoured cable and end termination– All 33 Districts	225000	Mtrs							
159.	IO box with single RJ45– All 33 Districts	400	Nos.							
160.	IO box with double RJ45– All 33 Districts	50	Nos.							
161.	Point wiring TYPE-I– All 33 Districts	50	Job							
162.	Headphone with mic-All Seven DHQ	133	Nos.							
163.	Min. 6U Wall Mount Network Rack-All Seven DHQ	32	Nos.							
164.	Access Control System-All Seven DHQ	7	Job							
165.	Rodent Repellent System -All Seven DHQ	7	Job							
166.	Water leakage system in datacentre-All Seven DHQ	6	Job							
167.	Fire Alarm System -All Seven DHQ	7	Job							
168.	2 KG Portable Fire Extinguisher - All 33 Districts	36	Nos.							

169.	4 KG Portable Fire Extinguisher- All 33 Districts	47	Nos.							
170.	DG Set -All Seven DHQ	26	Nos.							
171.	CAT 6A Cable-All Seven DHQ	16000	Mtrs.							
172.	Patch panel-All Seven DHQ	74	Nos.							
173.	CAT 6A I/O-All Seven DHQ	918	Nos.							
174.	3 feet patch chords-All Seven DHQ	1000	Nos.							
175.	7 feet Patch Chords-All Seven DHQ	700	Nos.							
176.	Optical Fibre cable-All Seven DHQ	11000	Mtrs.							
177.	Empty LIU with option to fit separate Adapter plate-All Seven DHQ	55	Nos.							
178.	LC SMF Pigtails-All Seven DHQ	672	Nos.							
179.	LC-LC Duplex Adapter-All Seven DHQ	336	Nos.							
180.	Splice Trays of minimum 8 fibre core, for Fibre Shelf-All Seven DHQ	112	Nos.							
181.	LC-LC, SMF Patch Cord 2m-All Seven DHQ	112	Nos.							
182.	LC-LC, SMF Patch Cord 5m-All Seven DHQ	224	Nos.							
183.	LaserJet Network Duplex Printer for Video	14	Nos.							

	Surveillance room and Dial 100 Control Room-All Seven DHQ									
184.	LaserJet Multifunction Network Duplex Printer-All Seven DHQ	7	Nos.							
185.	Junction Box - All 33 Districts	6750	Nos.							
186.	Pole (8 Mtr.) – All 33 Districts	6000	Nos.							
187.	Pole (10 Mtr.) – All 33 Districts	50	Nos.							
188.	AC 1.5 Ton Voltas 185ZY – All 33 Districts	10	Nos.							
189.	AC 1.5 Ton- – All 33 Districts	3	Nos.							
190.	Transceiver SFP for Single Mode fibre- All 33 Districts	3500	Nos.							
191.	4 pair Outdoor double jacket CAT 6A Cable (Bundle of 305 mtrs) - All 33 Districts	175	Nos.							
192.	3 core Electrical Cabling- All 33 Districts	5000	Mtrs							
193.	4 core Electrical Cabling- All 33 Districts	5000	Mtrs							
194.	Main Power Panel (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	13	Nos.							

195.	APFC Panel (One each at City Control Command Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	14	Nos.							
196.	Cu Earthing for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	14	Job							
197.	VTPN/ETPN for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	14	Job							
198.	Electrical lighting fixtures for project requirement (One each at Command & Control Center and Bharat Nirman Rajiv Seva Kendra) - All Seven Division	6	Job							
199.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 4 numbers of 5 Amp Socket controlled by single 16 Amp. - All Seven Division	332	Nos.							
200.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 3 numbers	86	Nos.							

	of 5 Amp Socket controlled by single 16 Amp. - All Seven Division									
201.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 4 numbers of 5/15 Amp Socket controlled by single 16 Amp. - All Seven Division	89	Nos.							
202.	Point Wiring with 2x6 sq mm+ 1x4 sq mm frls copper wire individual 2 numbers of 5/15 Amp Socket controlled by single 16/25 Amp. S- All Seven Division	58	Nos.							
203.	Power Cabling includes required sub distribution panels for switch board, CAC power supply and power DB's, including power cabling to make the system operational. - All Seven Division	7	Job							
204.	Access Floor for Video surveillance room, Dial 100 room, ITMS, Power/UPS Room and Forensic Room- All Seven Division	9000	Sq. ft							
205.	False Ceiling for Video surveillance room, Dial 100 room, ITMS Room, Power/UPS Room, Forensic	5122	Sq. ft							

	Room and other areas- All Seven Division									
206.	Maintenance of Civil and electrical Work - All Seven Division	125000	Sq. ft							
207.	Facility Management Services for CCC as per manpower requirement mentioned in RFP except cost for ITMS Experts (In Numbers)	204	Manpower							
208.	Facility Management Services for CCC ITMS Experts as mentioned in RFP (In Numbers)	9	Manpower							
209.	Facility Management Services for Edge Equipment at Divisional Level HQ except Jaipur and Jodhpur requirement mentioned in RFP (In UNITS)	15	UNIT							
210.	Facility Management Services for Edge Equipments at Divisional Level HQ Jaipur and Jodhpur requirement mentioned in RFP (In UNITS)	12	UNIT							
211.	Facility Management Services for Edge Equipments at 26 Districts as per manpower requirement	182	Manpower							

	mentioned in RFP (In Numbers)									
212.	Facility Management Services for Drone (Jaipur, Kota, Udaipur) (In Numbers)	4	Manpower							
<b>Total</b>										



**ANNEXURE-11: BANK GUARANTEE FORMAT{to be submitted by the bidder's bank}**

**BANK GUARANTEE FORMAT – BID SECURITY**

(To be stamped in accordance with Stamp Act and to be issued by a Nationalised/ Scheduled bank having its branch at Jaipur and payable at par at Jaipur, Rajasthan)

To,

The Managing Director,

RajCOMP Info Services Limited (RISL),

First Floor, YojanaBhawan, C-Block, Tilak Marg, C-Scheme, Jaipur-302005 (Raj). Sir,

1. In accordance with your Notice Inviting Bid for <please specify the project title> vide NIB reference no. <please specify> M/s. .... (Name & full address of the firm) (Hereinafter called the "Bidder") hereby submits the Bank Guarantee to participate in the said procurement/ bidding process as mentioned in the bidding document.

It is a condition in the bidding documents that the Bidder has to deposit Bid Security amounting to <Rs. \_\_\_\_\_ (Rupees <in words>)> in respect to the NIB Ref. No. \_\_\_\_\_ dated \_\_\_\_\_ issued by RISL, First Floor, Yojana Bhawan, C-Block, Tilak Marg, C-Scheme, Jaipur, Rajasthan (hereinafter referred to as "RISL") by a Bank Guarantee from a Nationalised Bank/ Scheduled Commercial Bank having its branch at Jaipur irrevocable and operative till the bid validity date (i.e. <please specify> days from the date of submission of bid). It may be extended if required in concurrence with the bid validity.

And whereas the Bidder desires to furnish a Bank Guarantee for a sum of <Rs. \_\_\_\_\_ (Rupees <in words>)> to the RISL as earnest money deposit.

2. Now, therefore, we the ..... (Bank), a body corporate constituted under the Banking Companies (Acquisition and Transfer of Undertaking) Act. 1969 (delete, if not applicable) and branch Office at..... (Hereinafter referred to as the Guarantor) do hereby undertake and agree to pay forthwith on demand in writing by the RISL of the said guaranteed amount without any demur, reservation or recourse.
3. We, the aforesaid bank, further agree that the RISL shall be the sole judge of and as to whether the Bidder has committed any breach or breaches of any of the terms costs, charges and expenses caused to or suffered by or that may be caused to or suffered by the RISL on account thereof to the extent of the Earnest Money required to be deposited by the Bidder in respect of the said bidding document and the decision of the RISL that the Bidder has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by the RISL shall be final and binding on us.
4. We, the said Bank further agree that the Guarantee herein contained shall remain in full force and effect until it is released by the RISL and it is further declared that it shall not be necessary for the RISL to proceed against the Bidder before proceeding against the Bank and the Guarantee herein contained shall be invoked against the Bank, notwithstanding any security which the RISL may have obtained or shall be obtained from the Bidder at any time when proceedings are taken against the Bank for whatever amount that may be outstanding or unrealized under the Guarantee.



5. Any notice by way of demand or otherwise hereunder may be sent by special courier, telex, fax, registered post or other electronic media to our address, as aforesaid and if sent by post, it shall be deemed to have been given to us after the expiry of 48 hours when the same has been posted.
6. If it is necessary to extend this guarantee on account of any reason whatsoever, we undertake to extend the period of this guarantee on the request of our constituent under intimation to you.
7. The right of the RISL to recover the said amount of <Rs. \_\_\_\_\_(Rupees <in words>)> from us in manner aforesaid will not be precluded/ affected, even if, disputes have been raised by the said M/s. ....(Bidder) and/ or dispute or disputes are pending before any court, authority, officer, tribunal, arbitrator(s) etc.
8. Notwithstanding anything stated above, our liability under this guarantee shall be restricted to <Rs. \_\_\_\_\_ (Rupees <in words>)> and our guarantee shall remain in force till bid validity period i.e. <please specify> days from the last date of bid submission and unless a demand or claim under the guarantee is made on us in writing within three months after the Bid validity date, all your rights under the guarantee shall be forfeited and we shall be relieved and discharged from all liability thereunder.
9. This guarantee shall be governed by and construed in accordance with the Indian Laws and we hereby submit to the exclusive jurisdiction of courts of Justice in India for the purpose of any suit or action or other proceedings arising out of this guarantee or the subject matter hereof brought by you may not be enforced in or by such court.
10. We hereby confirm that we have the power/s to issue this Guarantee in your favor under the Memorandum and Articles of Association/ Constitution of our bank and the undersigned is/are the recipient of authority by express delegation of power/s and has/have full power/s to execute this guarantee under the Power of Attorney issued by the bank in your favour.

Date ..... (Signature) .....  
 Place ..... (Printed Name) .....  
 (Designation) .....  
 (Bank's common seal) .....

In presence of:  
 WTTNESS (with full name, designation, address & official seal, if any)  
 (1) .....  
 .....  
 (2) .....  
 .....

Bank Details  
 Name & address of Bank:  
 Name of contact person of Bank: Contact telephone number:

### **GUIDELINES FOR SUBMISSION OF BANK GUARANTEE**

The Bank Guarantee shall fulfil the following conditions in the absence of which they cannot be considered valid: -

1. Bank Guarantee shall be executed on non- judicial stamp paper of applicable value purchased in the name of the bank.
2. Two persons should sign as witnesses mentioning their full name, designation, address and office seal (if any).
3. The Executor (Bank Authorities) may mention the power of attorney No. and date of execution in his/ her favour authorizing him/ her to sign the document. The Power of Attorney to be witnessed by two persons mentioning their full name and address.
4. The Bank Guarantee should be executed by a Nationalised Bank/ Scheduled Commercial Bank only.
5. Non – Judicial stamp paper shall be used within 6 months from the date of Purchase of the same. Bank Guarantee executed on the non-judicial stamp paper after 6 (six) months of the purchase of such stamp paper shall be treated as non-valid.
6. The contents of Bank Guarantee shall be strictly as per format prescribed by RISL
7. Each page of Bank Guarantee shall bear signature and seal of the Bank and B.G. number.
8. All corrections, deletions etc. in the Bank Guarantee should be authenticated by signature of Bank Officials signing the Bank Guarantee.
9. Bank should separately send through registered post/courier a certified copy of Bank Guarantee, mentioning Bid reference, Bid title and bidder name, directly to the Purchaser at the following address:

**BANK GUARANTEE FORMAT – PERFORMANCE SECURITY (PBG)**

(To be stamped in accordance with Stamp Act and on a Stamp Paper purchased from Rajasthan State only and to be issued by a Nationalised/ Scheduled bank having its branch at Jaipur and payable at par at Jaipur, Rajasthan)

To,  
The Managing Director,  
RajCOMP Info Services Limited (RISL),  
First Floor, YojanaBhawan, C-Block, Tilak Marg, C-Scheme, Jaipur-302005 (Raj).

1. In consideration of the RajCOMP Info Services Limited (hereinafter called "RISL") having agreed to exempt M/s .....(hereinafter called "the said Contractor(s)" from the demand, under the terms and conditions of an Agreement No.....dated .....made between the RISL through ..... and .....(Contractor) for the work .....(hereinafter called "the said Agreement") of Security Deposit for the due fulfilment by the said Contractor (s) of the terms and conditions contained in the said Agreement, on production of a Bank Guarantee for Rs.....(rupees .....only), we .....(indicate the name of the Bank), (hereinafter referred to as "the Bank") at the request of .....Contractor(s) do hereby undertake to pay to the RISL an amount not exceeding Rs.....(Rupees.....only) on demand.
2. We..... (Indicate the name of Bank), do hereby undertake to pay Rs..... (Rupees.....only), the amounts due and payable under this guarantee without any demur or delay, merely on a demand from the RISL. Any such demand made on the bank by the RISL shall be conclusive as regards the amount due and payable by the Bank under this guarantee. The Bank Guarantee shall be completely at the disposal of the RISL and We..... (Indicate the name of Bank), bound ourselves with all directions given by RISL regarding this Bank Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (Rupees.....only).
3. We.....(indicate the name of Bank), undertake to pay to the RISL any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal or Arbitrator etc. relating thereto, our liability under these presents being absolute, unequivocal and unconditional.
4. We.....(indicate the name of Bank) further agree that the performance guarantee herein contained shall remain in full force and effective up to <DATE> and that it shall continue to be enforceable for above specified period till all the dues of RISL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till the RISL certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.
5. We .....(indicate the name of Bank) further agree with the RISL that the RISL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the RISL against the said Contractor(s) and to forbear or



enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved

from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the RISL or any indulgence by the RISL to the said Contractor(s) or by any such matter or thing whatsoever which would but for this provision, have effect of so relieving us.

6. The liability of us ..... (Indicate the name of Bank), under this guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We ..... (indicate the name of Bank), lastly undertake not to revoke this guarantee except with the previous consent of the RISL in writing.
8. This performance Guarantee shall remain valid and in full effect, till 3 months after, completion of project period or it is decided to be discharged by the RISL. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs..... (Rupees.....only).
9. It shall not be necessary for the RISL to proceed against the contractor before proceeding against the Bank and the guarantee herein contained shall be enforceable against the Bank notwithstanding any security which the RISL may have obtained or obtain from the contractor.
10. We ..... (indicate the name of Bank) verify that we have a branch at Jaipur. We undertake that this Bank Guarantee shall be payable at any of its branch at Jaipur. If the last day of expiry of Bank Guarantee happens to be a holiday of the Bank, the Bank Guarantee shall expire on the close of the next working day.
11. We hereby confirm that we have the power(s) to issue this guarantee in your favor under the memorandum and articles of Association/constitution of our bank and the undersigned is/are the recipient of authority by express delegation of power(s) and has/have full power(s) to execute this guarantee for the power of attorney issued by the bank.

Dated.....day of.....For and on behalf of the <Bank> (indicate the Bank)

Signature (Name & Designation)  
Bank's Seal

The above performance Guarantee is accepted by the RISL  
For and on behalf of the RISL

Signature (Name & Designation)

### ANNEXURE-12: DRAFT AGREEMENT FORMAT

{to be mutually signed by selected bidder and procuring entity}

This Contract is made and entered into on this day of \_\_\_\_\_, 2013 by and between RajCOMP Info Services Limited (RISL), having its head office at First Floor, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur-302005, Rajasthan (herein after referred to as Purchaser/ RISL) which term or expression, unless excluded by or repugnant to the subject or context, shall include his successors in office and assignees on ONE PART

And

M/s \_\_\_\_\_, a company registered under the Indian Companies Act, 1956 with its registered office at \_\_\_\_\_ wherein after referred as the "Successful Bidder/ Supplier") which term or expression, unless excluded by or repugnant to the subject or context, shall include his successors in office and assignees on the OTHER PART.

Whereas,

Purchaser is desirous of appointing an agency for <project title> as per the Scope of Work and Terms and Conditions as set forth in the RFP document dated \_\_\_\_\_ of <NIB No \_\_\_\_\_>.

And whereas

M/s \_\_\_\_\_ represents that it has the necessary experience for carrying out the overall work as referred to herein and has submitted a bid and subsequent clarifications for providing the required services against said NIB and RFP document issued in this regard, in accordance with the terms and conditions set forth herein and any other reasonable requirements of the Purchaser from time to time.

And whereas

Purchaser has accepted the bid of supplier and has placed the Work Order vide Letter No. \_\_\_\_\_ dated \_\_\_\_\_, on which supplier has given their acceptance vide their Letter No. \_\_\_\_\_ dated \_\_\_\_\_.

And whereas

The supplier has deposited a sum of Rs. /- (Rupees \_\_\_\_\_) in the form of \_\_\_\_\_ ref no. \_\_\_\_\_ dated \_\_\_\_\_ of \_\_\_\_\_ Bank and valid up to \_\_\_\_\_ as security deposit for the due performance of the contract.

Now it is hereby agreed to by and between both the parties as under: -

1. The NIB Ref. No. \_\_\_\_\_ dated \_\_\_\_\_ and RFP document dated \_\_\_\_\_ issued by RISL along with its enclosures/ annexures, wherever applicable, are deemed to be taken as part of this contract and are binding on both the parties executing this contract.
2. In consideration of the payment to be made by RISL to supplier at the rates set forth in the work order no. \_\_\_\_\_ dated \_\_\_\_\_ will duly supply the said articles set forth in "Annexure- 1: Bill of Material" thereof and provide related services in the manner set forth in the RFP, along with its enclosures/ annexures and Technical Bid along with subsequent clarifications submitted by supplier.
3. The RISL do hereby agree that if bidder provide related services in the manner aforesaid observe and keep the said terms and conditions of the RFP and Contract, the RISL will pay or cause to be paid to bidder at the time and the manner set forth in the said conditions of the RFP,. The mode of Payment will be as specified in the RFP document.



4. The timelines for the prescribed Scope of Work, requirement of services and deployment of technical resources shall be affected from the date of work order i.e. \_\_\_\_\_ and completed by bidder within the period as specified in the RFP document.
5. All disputes arising out of this agreement and all questions relating to the interpretation of this agreement shall be decided as per the procedure mentioned in the RFP document.

In witness whereof the parties have caused this contract to be executed by their Authorized Signatories on this \_\_\_\_\_ day of \_\_\_\_\_, 2013.

Signed By:	Signed By:
( ) Designation: Company:	Managing Director, RISL
<i>In the presence of:</i>	<i>In the presence of:</i>
( ) Designation: Company:	( ) Designation: Department of IT&C, Govt. of Rajasthan
( ) Designation: Company:	( ) Designation: Department of IT&C, Govt. of Rajasthan



**ANNEXURE-13: FORMAT FOR SUBMISSION OF PROJECT REFERENCES FOR PRE-QUALIFICATION EXPERIENCE**

Project Name:	Value of Contract/Work Order (In INR):
Country: Location within country:	Project Duration:
Name of Customer:	Total No. of staff-months of the assignment:
Contact person with address, phone, fax and e-mail:	Approx. value of the services provided by your company under the contract (in INR):
Start date (month/year): Completion date	
Name of associated Bidders, if any:	
Narrative description of Project:	
List of Services provided by your firm/company	

Please attach a copy of the work order/ completion certificate/ purchase order/ letter from the customer for each project reference



### ANNEXURE-14: Severity Factor for various IT and Non –IT Equipment's

#### List of Non IT Items

S. No.	Non IT equipment	Severity Factor
1.	42U Rack with inbuilt cooling & fire suppression	8
2.	Access Control System	4
3.	Rodent Repellent System	4
4.	Water leakage system	4
5.	Fire Alarm System	4
6.	Power Panel	8
7.	UPS	8
8.	DG Battery	8
9.	DG Set	8
10.	Comfort AC	4
11.	Professional LED Display	6
12.	Display Controller	6
13.	Min. 6/9 U Network Rack	6
14.	Internal CCTV Camera	2
15.	NVR for internal Camera	2
16.	Table	2
17.	Chair	2
18.	Electrical Cabling	4
19.	LAN Cabling	4
20.	Optical Fibre Cabling	8
21.	SFP	6
22.	Printer	2
23.	Split AC	2

#### List of IT Items:

S. No.	IT equipment	Severity Factor
1.	Blade Server	8
2.	Blade Chassis	8
3.	Core Router	8
4.	Core Switch	8
5.	SAN Switch	8
6.	Primary Storage	8
7.	Tape Library	6
8.	Rugged Vehicle Mounted Mobile Data Terminal/Tablet	2
9.	IP Telephone	4
10.	Work Stations	4
11.	Desktops	4
12.	Radio Gateway System	4
13.	Access Switch	8
14.	KVM Switch	2
15.	Printer	2
16.	Virtual Server	8
17.	Secondary Storage	6



**ANNEXURE-15: MEMORANDUM OF APPEAL UNDER THE RTPP ACT, 2012**

Appeal No .....of .....

Before the ..... (First/ Second Appellate Authority)

1. Particulars of appellant:
  - a) Name of the appellant: <please specify>
  - b) Official address, if any: <please specify>
  - c) Residential address: <please specify>
  
2. Name and address of the respondent(s):
  - d) <please specify>
  - e) <please specify>
  - f) <please specify>
  
3. Number and date of the order appealed against and name and designation of the officer/ authority who passed the order (enclose copy), or a statement of a decision, action or omission of the procuring entity in contravention to the provisions of the Act by which the appellant is aggrieved:<please specify>
  
4. If the Appellant proposes to be represented by a representative, the name and postal address of the representative:<please specify>
  
5. Number of affidavits and documents enclosed with the appeal:<please specify>
  
6. Grounds of appeal (supported by an affidavit):<please specify>
  
7. Prayer:<please specify>

Place ..... Date .....

Appellant's Signature



**ANNEXURE-16: INDICATIVE FORMAT FOR CONSORTIUM AGREEMENT**

(On non-judicial stamp paper of appropriate value to be purchased in the name of executants companies or as required by the jurisdiction in which executed)

This Consortium Agreement executed on this ..... day of..... Two Thousand ..... By:

M/s. .... a Company incorporated under the laws of..... and having its registered office at ..... (hereinafter called the "Lead Member/First Member" which expression shall include its successors); and

M/s. .... a Company incorporated under the laws of ..... and having its registered office at ..... (hereinafter called the "Second Member" which expression shall include its successors)

The Lead Member/First Member and the Second Member shall collectively hereinafter be called as the "Consortium Members" for the purpose of submitting a proposal (hereinafter called as "Bid") for the work of .....(Name of work).....for ..... (Name of project) of M/s..... to Government of Rajasthan (GoR)/ RajCOMP Info Services Limited (herein after called the 'Owner' or 'RISL'), RISL being a Company incorporated under the Companies Act, 1956 having its registered office at Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur, India (hereinafter called the "Owner/GoR/ RISL") in response to GoR/ RISL Request for Proposal Document (hereinafter called as "RFP" Document) Dated..... for the purposes of submitting the bid no. .... and entering into a contract in case of award for the work of .....(Name of work).....for ..... (Name of project) of GoR/ RISL.

WHEREAS, the Owner invited bids vide its RFP document no. .... for the work of ..... AND WHEREAS as per document, Consortium bids will also be considered by the Owner provided they meet the specific requirements in that regard.

AND WHEREAS the PQ bid is being submitted to the Owner vide proposal dated ..... based on the Consortium Agreement being these presents and the PQ bid with its PQ bid forms and submission documents, in accordance with the requirement of PQ document conditions and requirements have been signed by all the partners and submitted to the Owner.

AND WHEREAS Clause of RFP document stipulates that a Consortium of maximum two companies, meeting the requirements stipulated in the RFP document may submit a Proposal signed by Lead Member of the Consortium Members so as to legally bind all the Members of the Consortium who will be jointly and severally liable for the performance and all obligations thereunder to GoR/RISL and duly signed Consortium Agreement shall be attached to the Proposal.

NOW THEREFORE, in consideration of the mutual covenants of the members of the Consortium, the sufficiency whereof is hereby acknowledged and other good valuable consideration, we agree as follows:

1. We the members in the Consortium hereby confirm that the name and style of the Consortium shall be..... Consortium.
2. M/s. .... shall act as Lead Member for self, and for and on behalf of M/s



..... (Second Member) and further declare and confirm that we shall jointly and severally be bound unto the Owner for the successful performance of the obligations under the Request for Proposal (RFP) and resulting Contact Agreement(s) submitted / executed by the Lead Member in the event of the selection of Consortium. Further, the Lead Partner is authorized to incur liabilities and receive instructions for and on behalf of any or all partners of the CONSORTIUM.

3. That M/s \_\_\_\_\_ which is the Lead Member of the Consortium shall invest and continue to invest .... % (at least 51% to be invested by Lead Bidder) interest in the Consortium for the Lock in Period (Complete Project Period) as specified in the RFP document.
4. That M/s \_\_\_\_\_, (Second Member) shall invest and continue to invest .... % interest of the Consortium for the Lock in Period (Complete Project Period) as specified in the RFP document.
5. The composition or the constitution of the consortium shall not be altered without the prior consent of GoR/RISL.
6. The roles and responsibilities of the lead bidder and the second member of the consortium for execution of various components/activities as defined in the RFP document shall be as under :

S.No.	Project Component/Activity	Roles & Responsibility of Lead Bidder	Roles & Responsibility of Second Member of Consortium
1			
2			
3			
4			

7. It is expressly agreed by the members that all members of the consortium shall be held equally responsible for the obligations under the RFP Document, Contract and this Agreement, irrespective of the specific roles/responsibilities undertaken by them.
8. For the purpose of this Agreement, the RFP Document and the Contract, the Lead Partner shall be the single point of contact for the GoR/ RISL, shall have the overall responsibility of the management of the Project and shall have single point responsibility for ensuring that all members of the consortium are complying with the terms and conditions set out in the Contract and the RFP Document.
9. All instructions/communications from PMC to the Lead Partner shall be deemed to have been duly provided to all the members of the consortium.
10. If GoR/ RISL suffers any loss or damage on account of any breach in the stipulation of the Agreements to be entered into by the Consortium Members, upon its selection pursuant to RFP (the "Agreements") or any shortfall in the performance of the Transaction or in meeting the performances guaranteed as per the RFP and the Agreements, the Consortium Members hereby jointly and severally undertake to promptly make good such loss or damages caused to GoR/ RISL on its demand without any demur or contest. The Owner shall have the right to proceed against anyone of the partners and it shall neither be necessary nor obligatory on the part of the Owner to proceed against the Lead Partner before proceeding against or dealing with the other Member.
11. The financial liability of the Consortium Members to the GoR/ RISL, with respect to any of the claims arising out of the performance or non-performance of obligations under the RFP and the resulting Agreement(s) shall not be limited so as to restrict or limit the liabilities of any of the Members and the Members shall be jointly and severally liable to GoR/RISL.
12. It is expressly agreed by the Members that all the due payments shall be made by the Owner to



Lead Bidder only.

13. This Consortium agreement shall be construed and interpreted in accordance with the laws of India and the Courts of Jaipur (Rajasthan) shall have the exclusive jurisdiction in all matters arising there under.
14. It is also hereby agreed that Lead Member shall, on behalf of the Consortium shall submit the Bid and performance Security as specified by owner in the RFP document.
15. It is further agreed that this Consortium Agreement shall be irrevocable and shall continue to be enforceable till the same is discharged by GoR/RISL.
16. This Agreement shall come into force as of the date of signing and shall continue in full force and effect until the complete discharge of all obligations, concerning the carrying out of the Project, which have been taken on by the Parties under the Contract, RFP Document and under this Agreement.
17. Any other terms and conditions not in contradiction to the RFP and above-mentioned terms and conditions.

IN WITNESS WHEREOF, the Members to the Consortium agreement have through their authorised representatives executed these presents and affixed common seal of their companies, on the day, month and year first mentioned above.

<p>Common Seal of ..... has been affixed in my/our Lead Member presence pursuant to Board of Director's resolution dated .....</p> <p>1) Witness</p> <p>2) Witness</p>	<p>For and on behalf of M/s..... (Lead Bidder)</p> <p>(Signature of authorized representative) Name : Designation:</p>
<p>Common Seal of ..... has been affixed in my/our Second Member presence pursuant to Board of Director's resolution dated .....</p> <p>1) Witness</p> <p>2) Witness</p>	<p>For and on behalf of M/s..... (Second member)</p> <p>(Signature of authorized representative) Name : Designation:</p>



**ANNEXURE-17: CERTIFICATE FOR PRIOR REGISTRATION FOR PUBLIC PROCUREMENTS**

Certificate for Prior Registration for Public Procurements

{to be submitted by the bidder }

To, {Procuring entity},

\_\_\_\_\_  
\_\_\_\_\_

Reference : NIB No. \_\_\_\_\_ dated \_\_\_\_\_ (Unique Bid No.: \_\_\_\_\_)

I {Name/ Designation} have read the Rule 13 of the Rajasthan Transparency in Public (RTTP) Rules, 2013 and Government of Rajasthan Notification No. F.2(1)FD/G&T-SPFC/2017 dated 01.01.2021,15.01.2021 and 30.03.2021 regarding prior registration with Industries department for bidders with beneficial ownership from countries sharing land border with India, for participation in any public procurement in the State.

\*I certify that this bidder/OEM {Name and address of the bidder} is not from such a country which shares land border with India or with beneficial ownership from such country.

OR

\*I certify that this bidder/OEM {Name and address of the bidder} from such a country which shares land border with India or with beneficial ownership from such country has been registered with the Competent Authority. Evidence of valid registration by the Competent Authority has been attached herewith.

I hereby certify that this bidder/OEM fulfils all requirements in this regard and is eligible to be considered.

Thanking you,

Name of the Bidder: -

Authorised Signatory: -

Seal of the Organization: -

Date:

Place:

\*Please strikeout which is not applicable.



**ANNEXURE-18: INDICATIVE CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT  
CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT**

This confidentiality and non-disclosure agreement (“Agreement”) is made on this \_\_\_\_\_ day of \_\_\_\_\_, 2015

**BETWEEN**

Managing Director, RajComp Info Services Ltd., B-Block, 1st Floor, YojnaBhawan, Tilak Marg, C-Scheme, Jaipur-302005 (hereinafter referred to as “RISL”, which expression shall, unless repugnant to the context hereof or excluded specifically, mean and include its successors, assigns and administrators) of the FIRST PART,

**AND**

Company Name, India (hereinafter referred to as \_\_\_\_\_ ‘Successful Bidder/ Supplier/System Integrator’, which expression shall, unless repugnant to the context hereof or excluded specifically, mean and include its successors, assigns and administrators) of the SECOND PART.

**WHEREAS**

- a) The RISL wishes to appoint an agency for development of CCC and data centre under city surveillance project in seven cities of the state of Rajasthan. For the purpose there will be a requirement to exchange certain information related to or hosted in State Data Centre (SDC) which is proprietary and confidential information.
- b) The RISL is willing to disclose such information to only on the terms and conditions contained in this Agreement. The SI agrees to hold the Covered Data and Information in strict confidence. SI not use or disclose Covered Data and Information received from or on behalf of Government of Rajasthan/RISL except as permitted or required by the Agreement, or as otherwise authorized in writing by RISL.

NOW, THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS:

1. Definition: In this agreement unless the contest otherwise requires:

1.1 "Confidential Information" shall mean

- a) any and all information concerning Data Centre (DC) or any other successor,
- b) any and all trade secrets or other confidential or proprietary information related and hosted in Data Centre (DC)
- c) Passwords of IT/Non IT equipment’s of DC, user identifications, or other information that may be used to access information systems, networking diagrams, technical specifications of IT/Non IT equipment’s, policies of routers /switches and information hosted on IT equipment’s in DC.

1.2 Proprietary Information shall mean as technical data and other information (including but not limited to digital data, products, substances, organisms, technology, research results or plans, system processes, workflows, know-how, reports, descriptions, drawings, design, compositions, strategies, trade secrets, business and financial information, and computer software) in whatever form, which is related or hosted with Data Centre (DC) and is disclosed or delivered by the First Party to the Second Party, whether by means of written or oral disclosure or otherwise.



2. Limitations on Use and Disclosure of Confidential and Proprietary Information

2.1 Confidential and Proprietary Information disclosed by the RISL and/or other departments/PSU whose data are hosted in DC shall be used by the SI solely for the purpose of fulfilment of the obligation and work assigned to it as per order no. and shall not otherwise be used for his benefit or otherwise. All information encountered in the performance of duties shall be treated as confidential unless and until advised otherwise by RISL or its representative. SI not share, record, transmit, alter, or delete information residing/hosted in the information systems except as required in performance of the job duties.

2.2 Confidential and Proprietary Information shall not be copied or reproduced by the SI without the express written permission of the RISL, except for such copies as may be reasonably required for accomplishment of the purpose stated in the tender no.

2.3 Confidential and Proprietary Information shall be disclosed only to the Director or employees of the SI who have a 'need to know' in connection with the purpose stated above, and who additionally agree to the nondisclosure requirements of this Agreement. Any further disclosure of confidential and Proprietary Information by the SI be treated as a breach of this Agreement by the SI.

2.4. Confidential and Proprietary Information shall not be disclosed by the SI to any third party without the prior written consent of the First Party.

2.5. This Agreement shall not restrict disclosure or use of Confidential and Proprietary Information which:

- a. was in the public domain at the time of disclosure or thereafter enters the public domain through no breach of this Agreement by the SI; or
- b. was, at the time of receipt, otherwise known to the SI without restriction as to use or disclosure; or
- c. becomes known to the SI from a source other than the RISL and/or other departments/PSU without a breach of this Agreement by the SI; or
- d. is developed independently by the SI without the use of Proprietary Information disclosed to it hereunder; or
- e. is otherwise required to be disclosed by law.

3. Business Obligation:

3.1 During the complete contract period and even after 3 years of the expiry of the agreement, the SI not

- f. Disclose Confidential Information in any manner or form to any person other than its own employees for the limited purpose stated herein, or
- g. Use Confidential Information for its own benefit or for the benefit of any person or entity other than the RISL, without the prior written consent of the RISL.

3.2 Whereas, the RISL as a matter of policy and with a view to operate and maintain DC has given order to the SI Work Order No for development of CCC and data centre under city surveillance project in seven cities of the state of Rajasthan as specified in the service level agreement (SLA).

3.3. Whereas, the RISL under the circumstances referred, herein before, wants to protect itself from any misuse of the confidential and proprietary information by the third party i.e. person or persons (employees of SI), had entered into an agreement with the Si that the second party shall not divulge such information either during the course of the life of this agreement or even after the expiry of the agreement.

- a. Whereas, the SI has agreed to fully abide by the terms of this non-disclosure agreement and it has also been agreed by the parties that if there will be any breach or violation of the terms of agreement vis-à-vis non-disclosure clause, the SI not only be liable for consequential costs





and damages but in addition to that will also be liable for criminal prosecution in accordance with the prevailing laws.

- b. Whereas, the SI having in his possession or control any secret official code or password or digital data or any sketch, plan, model, article, note, document or information which falls within the purview of confidential or proprietary information, the SI not part with any part of such information to any one under any circumstances, whatsoever, without the prior approval of the RISL and if this is violated, the RISL shall have the legal right to initiate civil and criminal proceeding against it under the provisions of the relevant law.
- c. Whereas, the RISL shall have the entire control over the functioning of the SI and the SI work according to the instruction of the RISL and in case if this is violated by the SI in any mode or manner, the RISL shall have the legal right to initiate civil and criminal proceeding against it under the provisions of the relevant law.
- d. Whereas, if the SI permits any person or persons without permission of the RISL to have –
  - a. Access or secures access to such computer, computer system or computer network which has the connectivity with the confidential and proprietary information or;
  - b. Downloads, copies or extracts any data, computer data base or information from such Database Server, Web Server, Computer System, networking equipments or Computer Network including information or data held or stored in any removable storage medium which has the connectivity with the confidential and proprietary information or;
  - c. Damages any Database Server or causes to damage any Database Server, Web Server, computer system, computer network, data, data base or any other programmes residing in such Server, computer system or computer network;
  - d. Denies or causes the denial of access to any authorized person of the RISL to have access to any computer system or computer network by any means;

Shall be liable to pay damages by way of compensation and would also be liable for criminal prosecution in accordance with the prevailing laws.

- e. SI report to RISL any use or disclosure of confidential and/or proprietary information/data not authorized by this Agreement in writing by RISL. SI make the report to RISL within not less than one (1) business day after SI learns of such use or disclosure. SI report shall identify:
  - a. The nature of the unauthorized use or disclosure,
  - b. The confidential and/or proprietary information/data used or disclosed,
  - c. Who made the unauthorized use or received the unauthorized disclosure,
  - d. What SI has done or shall do to mitigate any deleterious effect of the unauthorized use or disclosure, and
  - e. What corrective action SI has taken or shall take to prevent future similar unauthorized use or disclosure.

SI provide such other information, including a written report, as reasonably requested by RISL.

- f. The SI hereby agrees and consents that temporary or permanent injunctive relief and/or an order of specific performance may be granted in lieu of, or in addition to other available relief in any proceeding brought by RISL to enforce this Agreement, without the necessity of proof of actual damages and without posting bond for such relief.

#### 4. Dispute Resolution:

- 4.1 Whereas, both the parties have agreed that in the event of any dispute or differences arising in between the parties, the courts at Jaipur shall only have jurisdiction to adjudicate the disputes/differences.



RFP for Procurement of FMS & Annual maintenance Contract (AMC) of Command & Control Centre Project in State of Rajasthan (After Pre bid)

IN WITNESS WHERE OF the Parties here to have hereunto set their hands and seal the day and year first above written.

Signed By:	Signed By:
( ) Designation: Company:	( ) Managing Director, RISL
<i>In the presence of:</i>	<i>In the presence of:</i>
( ) Designation: Company:	( ) Designation: RISL
( ) Designation: Company:	( ) Designation: Department of IT&C, Govt. of Rajasthan



**ANNEXURE-19: Bidder's Details**

1.	<b>Name of Bidder</b> (If any consortium, specify name of both lead bidder and consortium partner)			
2.	<b>Name of Contact Person</b>			
3.	<b>Registered Office Address</b>			
4.	<b>Address of the bidder from which bid is submitted</b>			
5.	<b>Year of Establishment</b>			
6.	<b>Type of Firm</b>	<b>Public Limited</b>	<b>Private Limited</b>	<b>Others</b>
	<b>Put Tick(☑) mark</b>			
7.	<b>Telephone Number(s)</b>			
8.	<b>Email Address/ Website</b>	Email:	Web-Site:	
9.	<b>Fax No.</b>			
10.	<b>Mobile/ Pager Number</b>	Mobile:	Pager:	
11.	<b>Service Tax No.</b>			
12.	<b>VAT/CST No:</b>			
13.	<b>PAN NO:</b>			
14.	<b>Area of Specialization</b>			

2022

**RFP for Procurement of FMS & Annual  
Maintenance Contract (AMC) of Command &  
Control Centre Project in State of Rajasthan**

**Volume II**

Contact Information  
Amit Sharma  
Manager (Technical), RISL  
[amit.risl@rajasthan.gov.in](mailto:amit.risl@rajasthan.gov.in)





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**TECHNICAL SPECIFICATIONS**

*Note: All the specifications below are minimum specifications and higher specifications shall be used wherever necessary/ required. Deviation on higher side shall only be considered and no extra weightage shall be awarded for such deviations.*

**ITEM No 1 : BLADE CHASSIS**

S.No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Form Factor	Max 10U Rack mounted Chassis to house at least 12 Dual Socket Compute Nodes.	
4.	IO Modules	Min Four high-speed switch bays capable of supporting I/O architectures in Ethernet, Fiber Channel and FCoE. IO modules/ Switches should be scalable.	
5.	Ethernet IO Module (10GBps)	The chassis should have 2 Nos. of 10 Gbps redundant network switches/ interconnect modules with sufficient number of 10 Gbps Downlinks ports per switch with respect to the number of blade servers populated in the chassis and at least 8 x 10 GB SR SFP+ uplink ports per switch for connecting to the data center switch. It should also include all the required cables and SFP connectors for all the ports.	
6.	Fibre Channel IO Module	The chassis should have 2 Nos. of Fiber Channel SAN switches/ modules with at least 6 * 16 Gbps auto-negotiating FC uplinks and also at least 16 Gbps auto-negotiating downlinks to all server bays. It should also include all the required cables and SFP connectors for all the ports.	
7.	Mid plane	Dual network connectivity for each blade server for redundancy should be provided. Backplane/Midplane should be completely passive device. If it is active, dual Backplane/Mid plane should be provided for redundancy	
8.	Power Modules	Redundant power modules that provide N+N or N+1 redundancy (Fully populated power supplies to be included from day one)	
9.	Chassis Management Module	Integrated two redundant chassis Management Modules providing IP based management of the compute nodes and vital elements like FC and Ethernet Switches. Should also provide for controlling Power, Fan management, Chassis and compute node initialization, Switch management, Resource discovery and inventory management, Resource alerts and monitoring management, Chassis and compute node power management and diagnostics for elements including Chassis, I/O options and compute nodes.	
10.	System Panel	LED/LCD on the front information panel that can be used to obtain the status of the chassis Identify, Check log and faults on the LED/LCD display	
11.	Management Features	Should provide a single console to monitor enclosure	
12.		Should support simultaneous remote access for different servers in the enclosure	
13.		Should include OEM management/controlling software license for a fully populated enclosure	

14.		Should provide remote management capabilities, performance management capabilities, smart power management capabilities.	
15.		The Blade servers will be used for Virtualization purpose therefore, these should be virtualization enabled from day 1.	
16.	Accessories	All required cables, connectors and related accessories to be supplied	
17.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 2 : BLADE Server**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Processor	Min. 2 x Intel® Xeon® E5-2640 V3 (2.6GHz/ 1866MHz FSB, 20 MB Cache) or higher	
4.	Chipset	Intel C600 Series or higher	
5.	Memory (RAM)	Min. 64 GB DDR4 ECC 1866Mhz RDIMM with Memory Mirroring/ Online Sparing expandable to 512 GB RAM	
6.	HDD	Min. 2 x 300GB hot plug SFF 12 Gbps 10K RPM SAS drives or higher	
7.	RAID	Integrated Hardware RAID Controller with RAID 0, 1	
8.	Network	Min. 2 x 10Gbps (WoL and TCP/IP Offloading)	
9.	Interfaces	Min. 1 x USB 2.0/3.0 Port	
10.	SAN Connectivity	Min. 2 x 16 Gbps Fiber Channel HBA ports	
11.	Graphics	Integrated	
12.	Operating System	Genuine MS-Windows Server 2012 R2 standard Edition/RHEL 7 with 5 Years OEM Support, Subscription/ Software Assurance. (Bidder to provide updates, upgrades and patches with 5 years OEM Support)	
13.	Management Features	Two Virtual machine per server shall be created from day 1. In case of any virtualized host failure virtual machine should automatically restart on the redundant virtualized host	
14.	Keyboard and Mouse	Virtual KVM based remote control	
15.	Anti-virus feature	Advanced antivirus, antispymware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
16.	Quality	The Server OEM preferably should be in the latest Gartner Leader Quadrant	
17.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	
18.	Certifications	Should be certified on the supplied OS	

**ITEM No 3 : Workstations**

S.No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Processor	Intel Xeon E3 @ 3.00 Ghz or higher(without turbo) with 8 MB cache or higher /i 7 Quad core Processor @ 3.20 GHz or higher(without turbo) with 8 MB cache or higher (64 bit) (Processor should have been released on or after Q2 of 2014)	
4.	Memory	Minimum 16 GB Memory expandable upto min. 32 GB	
5.	Integrated Intel Graphics Card	Yes	
6.	Graphics card	WHQL certified NVIDIA Graphics card with 2 GB onboard video memory (non shared), graphics card shall be chosen such that each workstation supports 4 monitors simultaneously with no degradation in video quality considering HD video quality and 25 fps	
7.	HDD	2 TB SATA Hard drive @7200 rpm	
8.	Media Drive	16X DVD +RW	
9.	Network interface	1000BaseT, Gigabit Ethernet (10/100/1G auto sensing)	
10.	Audio	Line/Mic IN, Line-out/Spr Out (3.5 mm)	
11.	USB ports	Minimum 6 USB ports (out of that 2 in front). Out of 2 USB port in front ,Minimum 1 USB Port in front shall be USB 3.0 These would be disabled for data transfer.	
12.	Keyboard	104 keys minimum OEM keyboard	
13.	Mouse	2 button optical scroll mouse (USB)	
14.	Monitor	3 number of 21 inch monitor, Minimum 1920 x1080 resolution, TCO 03 (or higher) certified	
15.	Operating System	Latest 64 bit licensed Microsoft Windows operating system with media as per proposed solution	
16.	Anti-virus feature	Advanced antivirus, antispysware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
17.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**Note:** There would be DRM Software/application installed on the workstations at the Command &Control Centres and mobile tablets/smartphones that would prevent unauthorized copying of video feeds and other sensitive data. The storage structure of the video feeds shall be such that it prevents copying/tampering/export of video feeds without proper user authentication and audit trail.

**ITEM No 4 : Workstation(4 TB Storage)for Forensic Investigation Room**

S.No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Processor	Intel Xeon E3 @ 3.00 Ghz or higher(without turbo) with 8 MB cache or higher /i 7 Quad core Processor @ 3.20 GHz or higher(without turbo) with 8 MB cache or higher (64 bit) (Processor should have been released on or after Q2 of 2014)	
4.	Memory	Minimum 32 GB Memory expandable upto min. 64 GB	
5.	Integrated Intel Graphics Card	Yes	
6.	Graphics card	WHQL certified NVIDIA Graphics card with 2 GB onboard video memory (non shared), graphics card shall be chosen such that each workstation supports 4 monitors simultaneously with no degradation in video quality considering HD video quality and 25 fps	
7.	HDD	4 TB SATA Hard drive @7200 rpm	
8.	Media Drive	16X DVD +RW	
9.	Network interface	1000BaseT, Gigabit Ethernet (10/100/1G auto sensing)	
10.	Audio	Line/Mic IN, Line-out/Spr Out (3.5 mm)	
11.	USB ports	Minimum 6 USB ports (out of that 2 in front). Out of 2 USB port in front ,Minimum 1 USB Port in front shall be USB 3.0 These would be disabled for data transfer.	
12.	Keyboard	104 keys minimum OEM keyboard	
13.	Mouse	2 button optical scroll mouse (USB)	
14.	Monitor	3 number of 21 inch monitor, Minimum 1920 x1080 resolution, TCO 03 (or higher) certified	
15.	Operating System	Latest 64 bit licensed Microsoft Windows operating system with media as per proposed solution	
16.	Anti-virus feature	Advanced antivirus, antispysware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
17.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**Note:** There would be DRM Software/application installed on the workstations at the Command & Control Centres and mobile tablets/smartphones that would prevent unauthorized copying of video feeds and other sensitive data. The storage structure of the video feeds shall be such that it prevents copying/tampering/export of video feeds without proper user authentication and audit trail.

**ITEM No 5 : Desktop**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Processor	Intel Xeon E3 @ 3.00 Ghz or higher(without turbo) with 6 MB cache or higher /i 7 Quad core Processor @ 3.20 GHz or higher(without turbo) with 6 MB cache or higher (64 bit) (Processor should have been released on or after Q2 of 2014)	
4.	Memory	Minimum 8 GB Memory expandable upto min. 32 GB	
5.	Integrated Intel Graphics Card	Yes	
6.	HDD	1 TB SATA Hard drive @7200 rpm	
7.	Media Drive	16X DVD ±RW	
8.	Network interface	1000BaseT, Gigabit Ethernet (10/100/1G auto sensing)	
9.	Audio	Line/Mic IN, Line-out/Spr Out (3.5 mm)	
10.	USB ports	Minimum 6 USB ports (out of that 2 in front). Out of 2 USB port in front ,Minimum 1 USB Port in front shall be USB 3.0 These would be disabled for data transfer.	
11.	Keyboard	104 keys minimum OEM keyboard	
12.	Mouse	2 button optical scroll mouse (USB)	
13.	Monitor	21 inch monitor, Minimum 1920 x1080 resolution, TCO 03 (or higher) certified	
14.	Operating System	Latest 64 bit licensed Microsoft Windows operating system with media as per proposed solution	
15.	Anti-virus feature	Advanced antivirus, antispysware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
16.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**Note:** There would be DRM Software/application installed on the workstations at the Command & Control Centres and mobile tablets/smartphones that would prevent unauthorized copying of video feeds and other sensitive data. The storage structure of the video feeds shall be such that it prevents copying/tampering/export of video feeds without proper user authentication and audit trail.

**ITEM No 6 : Radio gateway system**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		

3.	Processor	Intel Xeon E3 @ 3.00 Ghz or higher(without turbo) with 6 MB cache or higher /i 7 Quad core Processor @ 3.20 GHz or higher(without turbo) with 6 MB cache or higher (64 bit) (Processor should have been released on or after Q2 of 2014)	
4.	Memory	Minimum 8 GB Memory expandable upto min. 32 GB	
5.	Integrated Intel Graphics Card	Yes	
6.	HDD	1 TB SATA Hard drive @7200 rpm	
7.	Media Drive	16X DVD +RW	
8.	Network interface	1000BaseT, Gigabit Ethernet (10/100/1G auto sensing)	
9.	Inbuilt Graphic Card	Yes	
10.	Additional Audio card	1 Nos. Internal/ External Sound Card 4 in 4 out.	
11.	Digital Radios	4 numbers digital radios (VHF-Using Police Radio Frequencies)	
12.	Foot pedal	Foot Pedal for Dispatcher with Com Port /RS232 Connector at Dispatcher PC (4 Nos.)	
13.	USB ports	Minimum 6 USB ports (out of that 2 in front). Out of 2 USB port in front ,Minimum 1 USB Port in front shall be USB 3.0 These would be disabled for data transfer.	
14.	Keyboard	104 keys minimum OEM keyboard	
15.	Mouse	2 button optical scroll mouse (USB)	
16.	Monitor	Min. 21 inch monitor, Minimum 1920 x1080 resolution, TCO 03 (or higher) certified	
17.	Operating System	Latest 64 bit licensed Microsoft Windows operating system with media as per proposed solution	
18.	Anti-virus feature	Advanced antivirus, antispysware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
19.	Warranty	5 Years Comprehensive bidder/OEM Warranty	

**ITEM No 7 : RACK with Cooling Solution & Fire Detection/Suppression**

S. No.	Particulars	Compliance (Yes/No)
1.	<b>Make:</b>	
2.	<b>Model:</b>	
3.	<b>CLOSE LOOP COOLING TECHNICAL SPECIFICATIONS :</b>	
4.	Closed Loop Cooling Solution with variable capacity Technology (DX Type with R410a) –to support total IT Load of 40kW (N+1 for each row). IT-optimised design, providing ideal support for “front-to-back” air routing for the 19" installations	
5.	As a direct condenser, the integrated air/refrigerant heat exchanger should guarantee a cooling output of min. 10 kW with standard server enclosure	

	dimensions, the lowest possible weight, and comprehensive possibilities for monitoring. (Considering ambient temperature - 48 degree)	
6.	The Closed Loop Cooling Units, should be mounted on the sides of the racks. The warm server air is drawn in directly from the rear of the rack and the cooled air is blown back in front of the 19" equipment level from the side, over the whole height of the enclosure. The Cooling Units is closed up to the server rack at the front and rear and there forms a flush joint with the rack	
7.	The Cooling Units should be equipped with EC fans, for maximum efficiency and minimum power consumption. The flow characteristics of the heat exchanger are optimised for the lowest possible pressure losses on the air side. This should minimise the energy consumption of the fans	
8.	The Cooling Units should be equipped with corresponding controller & should serve to regulate the speed of the installed condenser	
9.	The cooling capacity should regulate from 25%-100% based on the IT Load & Ambient temperature	
10.	This should permit step less adaptation of the output, also in partial-load operation, and by reducing energy consumption also should achieve a reduction in operating costs	
11.	Alongside the compressor, the cooling circuit of the Cooling Units should comprise a collecting tank, liquid separator/receiver, electronic/ thermostatic expansion valve, optimised heat exchanger, high and low-pressure sensors, Schrader valves, filter dryer, non-return valve, high-pressure switch and shut-off devices	
12.	The refrigerant connections and the electrical power connection to the unit should be realised from above or below	
13.	The Cooling Units and the Server Rack should remain separate from each other. This simplifies assembly and service work and excludes the need for unwanted access to the server rack for maintenance purposes	
14.	Maintenance and service for all relevant components should be realised quickly. The fans should be exchanged quickly and at any time, even while the system is operational (hot swapping).The fans should be installed in the cold air section, which increases their service life	
15.	Condensate management should be integrated into the unit. Any condensate is collected in a collecting tray in the base and from there discharged to the outside via a hose	
16.	Monitoring and alarm management for all physical parameters should be realised via SNMP over Ethernet	
17.	A display with operating keys should be integrated on the front of the unit to display and set the physical parameters	
18.	In case of InRow Solution bidder shall have to be provisioned with Cold Aisle containment which shall able to provide the better efficiency	
19.	<b>Technical specifications of Indoor Cooling Units:</b>	
20.	Useful cooling output: Minimum 10 kW at 47 °C ambient temperature at place of installation of the condenser	
21.	Minimum 10 kW at 47 °C ambient temperature at place of installation of the condenser	
22.	Intake temperature, set: 22 °C	
23.	Power supply: 400 V, 3~, N, PE, 50/ 60 Hz (voltage range 380-460 V)	
24.	Refrigerant: R410a	
25.	Connection length, max.: 30 m	
26.	Installed fans: As per manufacturer design	
27.	Air throughput: max. 5000 m <sup>3</sup> /h	
28.	<b>The External Condenser unit for Closed Loop Cooling Solution</b>	

29.	<p>The air-cooled condenser unit needed to operate the cooling packages should have axial fans with speed controlled according to the pressure in the cooling circuit. The housing should be manufactured from galvanised sheet steel and subsequently powder-coated.</p> <p>The condenser should have possibility to be mounted either horizontally or vertically using the enclosed accessories. A main switch with cover is enclosed with the unit.</p>	
30.	<b>Technical specifications of External Condenser</b>	
31.	<ul style="list-style-type: none"> <li>• Air throughput: Approx.5000 m<sup>3</sup>/h</li> <li>• Power supply: 230 V, 1~, 50/60 Hz</li> <li>• Max. connected load: 400 W</li> <li>• Refrigerant: R410a</li> <li>• Sound pressure level (10 m distance): 43 dB(A)</li> </ul>	
32.	<b>1.1 Copper piping</b>	
33.	<p>Refrigerant copper piping with closed cell elastomeric nitrile rubber tubular insulation between each set of indoor &amp; outdoor units as per specifications, all piping inside the room shall be properly supported with MS hanger. Transmission wiring between indoor to outdoor unit in a suitable PVC conduit - 1.5 sq.mm 4 core. PVC Drain Piping - 25mm dia. Rigid PVC piping complete with fittings, supports as per specifications duly insulated with 6mm thick nitrile rubber tubular sleeves</p>	
34.	<b>1.2 Refrigerant Gas</b>	
35.	<p>Supply of R – 410A, refrigerant gas, and charging it, after cleaning the line and pre-testing for leakage. Testing the line after charging the gas as per standards and directions</p>	
36.	Preferred make: Schneider/ Emerson/ Rittal	
37.	<b>1.3 Fire Detection and Suppression system For Server Room</b>	
38.	<p><b>Rack-mountable Fire Detection and Suppression system</b></p> <p>Fire detection and suppression master system must be compact enough to occupy minimum space. Rack Mountable device should have built-in high sensitivity smoke detection with active air-sampling. Also the NOVEC 1230 suppression system cylinders must be supplied in sufficient quantity. The Fire detection and suppression system should be equipped with fire panel, and along with accessories. The system should include a manual abort option. This device should be monitored using potential free contacts. It should have possibility to expand up to 10 nos. of IT Rack using master &amp; slave configuration or as per OEM design</p>	
39.	<p><b>Rack-mountable Fire Suppression System</b></p> <p>Fire detection and suppression Slave unit must be compact enough to occupy minimum space in IT rack. Rack Mountable Slave device should have the NOVEC 1230 suppression system cylinders and supplied in sufficient quantity. The Fire suppression Slave unit should be communicating with master units for activation and suppression system or as per OEM design</p>	
40.	<p><b>Fire detection and suppression - Installation related services</b></p> <p>Bidder shall provide installation related services for fire detection system &amp; Novec1230 gas based automated suppression system.</p> <p>The design, equipment, installation, testing and maintenance of the Clean Agent Suppression System shall be in accordance with the applicable requirements set forth in the latest edition of the NFPA Standards.</p>	
41.	<p><b>1.4 Fault Signals Provisioning of monitoring fault signals alarm</b></p> <p>Remote Monitoring system with Graphical user interface with e-mail alerts. The following devices to be monitored: Temperature/Humidity, Water Leakage, Fire Detection &amp; Extinguishing, Air-condition Units, Door access sensor. It should also monitor &amp; control Automatic Door Opening. It should provide a single TCP IP interface for remote monitoring of all components and generate email alerts and warnings. The central monitoring device should also be connected to Signal Pillar</p>	



	with Audio & Visual alarm extension. It should be able to operate with Protocols: TCP/IPv4, TCP/IPv6, SNMPv1, SNMPv2c, SNMPv3, Telnet, SSH, FTP, SFTP, HTTP, HTTPS, NTP, DHCP, DNS, SMTP, XML, Syslog, LDAP. The system should have feature to generate SMS alerts as well.	
42.	<p><b>1.5 IP Based CCTV Camera</b></p> <p>Small-sized Indoor Network Camera - Fixed lens and adjustable focus. Multiple, individually configurable H.264 and Motion JPEG streams; max SVGA 800 x 600 resolution at 30 fps. Video motion detection. Connects over wired Ethernet. MicroSD/SDHC memory card slot for edge storage. Includes stand and clamp for easy mounting and power supply with Basic Software to monitor both the Camera. (Excludes MicroSD/SDHC Memory card)</p>	
43.	<p><b>1.6 Complete Installation, testing &amp; commissioning of complete Integrated Data Centre.</b></p> <p>Installation and Training:</p> <p>(i) Installation of Data Centre and the relevant components has to be carried out by qualified technicians.</p> <p>(ii) 02 day on site training to the user at site</p>	
44.	<p><b>RACK SPECIFICATION</b></p> <p>These Racks will be used to mount and house all servers/network/storage devices in the data centre. The rack has to be designed to meet the safety requirements of the modern data centre. Both the front and rear door should be designed to give active high performance closed loop cooling system with handle &amp; key lock system, Cable entry should be entered via the roof plate and via the gland plate without affecting the climatic conditions inside the rack.</p>	
45.	<b>Rack Height – 42 U</b>	
46.	<b>Server/Storage Rack</b>	
47.	Maximum Width – 600 mm Maximum Depth – Bidder to propose	
48.	<b>Network Rack</b>	
49.	Maximum Width – 800 mm Maximum Depth – Bidder to propose	
50.	<b>Each Rack should include</b>	
51.	19" Rack frame with sturdy frame construction made of nine/sixteen fold or more rolled hollow frame section punched in 25mm DIN pitch pattern and load bearing capacity of 1000Kg or more	
52.	2 pairs of 42U 19" L Type angles at Front & Rear on 6nos of punched sections with "U" Marking	
53.	Front Glass Door with door stiffeners, Rear Sheet Steel Door with door stiffeners, with Comfort Handle with Unique key lock	
54.	Set of Side Panels	
55.	Top cover plain, Bottom cover with cut out of 400Wx150D with wire brush insert at back side for cable entry	
56.	Vertical PDU, 32A, Single Phase, with Digital Ammeter, 12 o's of C13 and 4 No's of C19, 32A MCB & IEC309 Socket as Input. (2nos Per Rack)	
57.	Base Plinth 100mm height	
58.	Earthing kit, Cu Earth rail 15x3x500 with 10 Points with screws and insulators & Earth Straps, 4Sqm, 170mm In length	
59.	Hardware pack of 20 (2 packs / Rack)	
60.	Metal Shunting rings/ Vertical Cable Manager for network rack	
61.	Blanking Panel 1 U, ABS Material (20 no's /Rack)	
62.	The Rack & the cooling Solution shall be of the same make	
63.	5 Years Comprehensive OEM Warranty	

**ITEM No 8 : UPS for datacenter**

S. No	Functions	Minimum Required Specifications	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Standards	A. Safety EN/IEC62040-1-1 /CE certificate B. Emissions EN50091-2 / IEC62040-2/ CISPR 22 Class A /CE certificate	
4.	Capacity/Rating	- The UPS shall be sized for 80 KVA and 64 kW load at power factor 0.8. - The UPS battery shall be sized for 80KVA at a power factor of 0.8 for 60 minutes considering ageing factor of 25% and design margin of 10% - The UPS shall have a short circuit withstand capability of 60kA or more	
5.	Type	Three-phase On-line, continuous operation, solid-state uninterruptible power supply (UPS) with the option to run in parallel with identical units	
6.	Mode of operation	<p>i. <b>Normal:</b> The inverter and the rectifier shall operate in an on-line manner to continuously regulate the power to the critical load. The rectifier shall derive power from the AC input source and supply DC power to float charge the battery.</p> <p>ii. <b>Battery:</b> Upon failure of the AC input source, the critical load shall continue being supplied by the main inverter without any switching. The inverter shall obtain its power from the battery. There shall be no interruption in power to the critical load upon failure or restoration of the AC input source.</p> <p>iii. <b>Recharge:</b> Upon restoration of the AC input source, the UPS shall simultaneously recharge the battery and regulate the power to the critical load.</p> <p>iv. <b>Static Bypass:</b> The static bypass switch shall be used for transferring the critical load to input supply without interruption. Automatic re-transfer to normal operation shall also be accomplished with no interruption in power to the critical load. The static bypass switch shall be fully rated and shall be capable of manual operation. The UPS shall be able to recharge the batteries while supplying full power to the load via the static bypass switch.</p> <p>v. <b>Internal maintenance bypass switch:</b> The UPS shall be provided with an internal manual bypass switch for supplying the load directly from the mains supply, while the UPS is taken out for maintenance. The switch should be removable when the individual UPS unit has to run in parallel with other units.</p>	
7.		The UPS shall be provided with RS-232 signaling and WEB/SNMP integration. This system must provide a means	

		for logging and alarming of all monitored points plus email notification. The UPS shall have nominal voltage of 3×415,230V, 50Hz, L1,L2,L3,N,PE. The UPS will be capable of paralleling minimum 2 nos. like kVA and type UPS systems for capacity.	
8.	Inverter Technology	IGBT with high Pulse Width Modulation (PWM) Technology	
9.	Output Wave Form	Sinusoidal	
10.	Generator Compatibility	Should be provided so that the generator capacity should not be greater than 1.3 times of UPS	
11.	Total Harmonic Distortion	< 3% for 100% linear load < 5% for 100% non-linear load	
12.	Short circuit withstand	The UPS must withstand a bolted-fault short circuit on the output without damage to the UPS module.	
13.	System AC-to-AC efficiency	>95% for loads greater than 100% of system load >94% for loads greater than 50% of system load	
14.	Acoustical noise	dB (A) of noise <65dBA, typically, measured at 1 meter from the operator surface	
15.	<b>INPUT</b>		
16.	Nominal Input Voltage	3×415/240V (adjustable for 3×380/220V or 3×440/255V)	
17.	Input Voltage Range	415 Volt ± 15%	
18.	Input Frequency	50 Hz (auto sensing)	
19.	Input Power factor	>0.98	
20.	Input current distortion	< 5% THD at 100% load	
21.	<b>OUTPUT</b>		
22.	Output Voltage	3×415/240V.	
23.	Regulation	Earthing principle: [TN-S] [TT] or [IT] Output voltage regulation for steady state and transient variations (at default parameter settings) - ± 1% steady state for a static 100% balanced load. - ± 1% steady state for a static 100% unbalanced load.	
24.	Output Frequency	a. Synchronized to mains over the range of 50 Hz± 5% or 60 Hz± 5% in normal operation b. 50 Hz ± 0.1 Hz in battery operation.	
25.	Output voltage harmonic distortion	a. <2 % THD maximum for a 100% linear load b. <5% THD maximum for a 100% non-linear load	

26.	Overload capability	a. 150% for 1 minute in normal operation b. 125% for 10 minutes in normal operation	
27.	Output Power Factor	For loads exhibiting a power factor of 0.5 leading to 0.5 lagging, no de-rating of the UPS shall be required.	
28.	Output Voltage Regulation	a. Static: Less than 1% at full linear load. b. Dynamic: 5% at 100% step load.	
29.	Output Frequency	50Hz free running	
30.	Crest Factor	3:1	
31.	<b>INVERTOR</b>	<ul style="list-style-type: none"> <li>- The inverter shall consist of fast switching IGBT power module.</li> <li>- Inverter shall be PWM controlled using DSP logic. Analogue control shall not be acceptable.</li> <li>- The inverter modules shall be rated for an output power factor at 0.8.</li> </ul>	
32.	Environmental Requirement	<ul style="list-style-type: none"> <li>a. Storage ambient temperature: -25°C to 40°C</li> <li>b. Operating ambient temperature: 0°C to 40°C. 15°C to 25°C is ideal for batteries (above the battery lifetime is reduced).</li> <li>c. Relative humidity: 0 to 95%, non-condensing.</li> <li>d. Storage elevation: 0 to 1000m.</li> <li>e. Operating altitude with no de-rating : 0 to 1000m feet above sea level</li> </ul>	
33.	Parallel Operation	<p>For purposes of paralleling UPS units in the event of increased capacity or redundancy, the UPS shall contain as a standard feature, the ability to parallel up to 4 modules. In this mode of operation the output voltage, output frequency, output phase angle, and output impedance of each module shall operate in uniformity to ensure correct load sharing. This control function shall not require any additional footprint and shall be an integral function of each UPS.</p> <p>Load Sharing: A load sharing circuit shall be incorporated into the parallel control circuits to ensure that under no load conditions, no circulating current exists between modules. This feature also allows each UPS to share equal amounts of the total critical load bus. Load sharing communications shall be galvanically isolated for purposes of fault tolerance between UPS modules. A UPS module's influence over load sharing shall be inhibited in any mode where the UPS inverter is not supporting its output bus.</p>	
34.	Battery Backup	Battery back with fuse box /MCCB protection, stand with SMF batteries of one hour backup	
35.	Isolation Transformer	The UPS should be provided with built-in/external Isolation transformers	
36.	Warranty	5 Years Comprehensive onsite OEM Warranty	
37.	Preferred make	APC (Schneider), Emerson, Delta	

**ITEM No 9 : UPS for Command and Control Center**

S. No	Functions	Minimum Required Specifications	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Standards	A. Safety EN/IEC62040-1-1/CE Certificate B. Emissions EN50091-2 / IEC62040-2/ CISPR 22 Class A/ CE Certificate	
4.	Capacity/Rating	- The UPS shall be sized for 60 KVA and 48 kW load at power factor 0.8. - The UPS battery shall be sized for 60KVA at a power factor of 0.8 for 60 minutes considering ageing factor of 25% and design margin of 10% - The UPS shall have a short circuit withstand capability of 45kA or more	
5.	Type	Three-phase On-line, continuous operation, solid-state uninterruptible power supply (UPS) with the option to run in parallel with identical units	
6.	Mode of operation	<p>i. <b>Normal:</b> The inverter and the rectifier shall operate in an on-line manner to continuously regulate the power to the critical load. The rectifier shall derive power from the AC input source and supply DC power to float charge the battery.</p> <p>ii. <b>Battery:</b> Upon failure of the AC input source, the critical load shall continue being supplied by the main inverter without any switching. The inverter shall obtain its power from the battery. There shall be no interruption in power to the critical load upon failure or restoration of the AC input source.</p> <p>iii. <b>Recharge:</b> Upon restoration of the AC input source, the UPS shall simultaneously recharge the battery and regulate the power to the critical load.</p> <p>iv. <b>Static Bypass:</b> The static bypass switch shall be used for transferring the critical load to input supply without interruption. Automatic re-transfer to normal operation shall also be accomplished with no interruption in power to the critical load. The static bypass switch shall be fully rated and shall be capable of manual operation. The UPS shall be able to recharge the batteries while supplying full power to the load via the static bypass switch.</p> <p>v. <b>Internal maintenance bypass switch:</b> The UPS shall be provided with an internal manual bypass switch for supplying the load directly from the mains supply, while the UPS is taken out for maintenance. The switch should be removable when the individual UPS unit has to run in parallel with other units.</p>	
7.		The UPS shall be provided with RS-232 signaling and WEB/SNMP integration. This system must provide a means	

		for logging and alarming of all monitored points plus email notification. The UPS shall have nominal voltage of 3×415,230V, 50Hz, L1,L2,L3,N,PE. The UPS will be capable of paralleling minimum 2 nos. like kVA and type UPS systems for capacity.	
8.	Invertor Technology	IGBT with high Pulse Width Modulation (PWM) Technology	
9.	Output Wave Form	Sinusoidal	
10.	Generator Compatibility	Should be provided so that the generator capacity should not be greater than 1.3 times of UPS	
11.	Total Harmonic Distortion	< 3% for 100% linear load < 5% for 100% non-linear load	
12.	Short circuit withstand	The UPS must withstand a bolted-fault short circuit on the output without damage to the UPS module.	
13.	System AC-to-AC efficiency	>95% for loads greater than 100% of system load >94% for loads greater than 50% of system load	
14.	Acoustical noise	dB (A) of noise <65dBA, typically, measured at 1 meter from the operator surface	
15.	<b>INPUT</b>		
16.	Nominal Input Voltage	3×415/240V (adjustable for 3×380/220V or 3×440/255V)	
17.	Input Voltage Range	415 Volt ± 15%	
18.	Input Frequency	50 Hz (auto sensing)	
19.	Input Power factor	>0.98	
20.	Input current distortion	< 5% THD at 100% load	
21.	<b>OUTPUT</b>		
22.	Output Voltage	3×415/240V.	
23.	Regulation	Earthing principle: [TN-S] [TT] or [IT] Output voltage regulation for steady state and transient variations (at default parameter settings) - ± 1% steady state for a static 100% balanced load. - ± 1% steady state for a static 100% unbalanced load.	
24.	Output Frequency	a. Synchronized to mains over the range of 50 Hz± 5% or 60 Hz± 5% in normal operation b. 50 Hz ± 0.1 Hz in battery operation.	
25.	Output voltage harmonic distortion	a. <2 % THD maximum for a 100% linear load b. <5% THD maximum for a 100% non-linear load	

26.	Overload capability	a. 150% for 1 minute in normal operation b. 125% for 10 minutes in normal operation	
27.	Output Power Factor	For loads exhibiting a power factor of 0.5 leading to 0.5 lagging, no de-rating of the UPS shall be required.	
28.	Output Voltage Regulation	a. Static: Less than 1% at full linear load. b. Dynamic: 5% at 100% step load.	
29.	Output Frequency	50Hz free running	
30.	Crest Factor	3:1	
31.	<b>INVERTOR</b>	<ul style="list-style-type: none"> <li>- The inverter shall consist of fast switching IGBT power module.</li> <li>- Inverter shall be PWM controlled using DSP logic. Analogue control shall not be acceptable.</li> <li>- The inverter modules shall be rated for an output power factor at 0.8.</li> </ul>	
32.	Environmental Requirement	<ul style="list-style-type: none"> <li>a. Storage ambient temperature: -25°C to 40°C</li> <li>b. Operating ambient temperature: 0°C to 40°C. 15°C to 25°C is ideal for batteries (above the battery lifetime is reduced).</li> <li>c. Relative humidity: 0 to 95%, non-condensing.</li> <li>d. Storage elevation: 0 to 1000m.</li> <li>e. Operating altitude with no de-rating : 0 to 1000m feet above sea level</li> </ul>	
33.	Parallel Operation	<p>For purposes of paralleling UPS units in the event of increased capacity or redundancy, the UPS shall contain as a standard feature, the ability to parallel up to 4 modules. In this mode of operation the output voltage, output frequency, output phase angle, and output impedance of each module shall operate in uniformity to ensure correct load sharing. This control function shall not require any additional footprint and shall be an integral function of each UPS.</p> <p>Load Sharing: A load sharing circuit shall be incorporated into the parallel control circuits to ensure that under no load conditions, no circulating current exists between modules. This feature also allows each UPS to share equal amounts of the total critical load bus. Load sharing communications shall be galvanically isolated for purposes of fault tolerance between UPS modules. A UPS module's influence over load sharing shall be inhibited in any mode where the UPS inverter is not supporting its output bus.</p>	
34.	Battery Backup	Battery back with fuse box /MCCB protection, stand with SMF batteries of one hour backup	
35.	Isolation Transformer	The UPS should be provided with built-in/external Isolation transformers	
36.	Warranty	5 Years Comprehensive onsite OEM Warranty	

37.	Preferred make	APC (Schneider), Emerson, Delta	
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**ITEM No 10 : Wall Mount Network Rack (6U)**

S. No.	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	HEIGHT	Min.6U (To house two patch panel and two access switch)	
4.	TYPE	WALL MOUNT	
5.	WIRE MANAGERS	ONE HORIZONTAL	
6.	POWER DISTRIBUTION	POWER DISTRIBUTION (Adequate number of sockets as per requirement)	
7.	DOOR	GLASS DOOR IN FRONT WITH LOCK	
8.	FAN TRAYS	WITH FANS	
9.	DEPTH	600 MM	
10.	METAL	ALUMINIUM EXTRUDED PROFILE/CRCA Sheet Steel	
11.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 11 : Primary Storage (400 TB Usable NL-SAS disks and 5 TB usable SAS disks)**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Solution Type	Bidder is expected to provide Unified Storage solution meeting benchmark performance parameters specified in SLA. Solution proposed should yield low cost per TB, while meeting the performance parameters	
2.	Storage Size	400 TB usable Storage shall be offered (Disks should be preferably of 4 TB or higher capacity dual ported min. 7.2 K RPM 6 Gbps NL-SAS Drives.) under RAID 6.  5 TB usable Storage shall be offered (Disks should be of 600 GB 10K SAS 6 Gbps Drives.) under RAID 5 or equivalent/better.  Should support latest technology SSD, SAS, NL-SAS/SATA Drives and automated tiering/movement of data between all the types of drives	
3.	Hardware Platform	<ul style="list-style-type: none"> <li>• Rack mounted form-factor</li> <li>• Modular design to support disk drives expansion</li> <li>• Min. 16 Backend SAS lanes for disk connectivity</li> </ul>	
4.	Controllers	<ul style="list-style-type: none"> <li>• 2 numbers of Controllers in active/active mode – Unified Storage with 64 GB onboard DRAM Cache across SAN controllers</li> <li>• The SI shall be responsible for smooth flow of video at CCC for live video, playback and video analytics. In case the complete solution requires higher cache the SI has to provide cache accordingly.</li> <li>• The controllers / Storage nodes should be upgradable seamlessly, without any disruptions / downtime to production workflow for performance, capacity enhancement and software / firmware upgrades.</li> </ul>	



5.	Ports	Min. 4 * 16 Gbps FC ports, min. 4 * 10G Ethernet and 2 replication ports	
6.	Operating System and Virtualization Support	Windows, Linux and Virtualization Platform like VMware, RHEL, Xenserver and HyperV	
7.	Protocol Support	FC, ISCSI, NFS, CIFS, SMB	
8.	Management Protocol Support	SNMP, LDAP/AD, Network Time Protocol	
9.	RAID support	Should support various hardware industry standard RAID levels ( 1,5,6,10 )or equivalent	
10.	Redundancy and High Availability	The Storage System should be able to protect the data against single point of failure with respect to hard disks, connectivity interfaces, fans and power supplies.	
11.	Management software	<ul style="list-style-type: none"> <li>All the necessary software to configure and manage the storage space, RAID configuration, logical drives allocation, snapshots etc.</li> <li>GUI/Single Command Console for entire storage system</li> <li>Should also include storage performance monitoring and management software.</li> <li>Should provide the functionality of proactive monitoring of Disk drive and Storage system for all possible disk failures</li> <li>Should be able to take "snapshots".</li> </ul>	
12.	Licenses and Software	Auto-tiering, Thin Provisioning, Remote Replication, Quality of Service Software for IOPS, Response Time and bandwidth.	
13.	Data Protection	The storage array must have cache protection mechanism either by de-staging data to disk or providing cache data protection with battery backup for up to 48 hours.	
14.	Retrieval Time	Retrieval time for any data stored should be maximum 4 hours for critical data and 8 hours for other data. This would be taken care in to account for SLA calculation. Critical data means – any data needing urgent attention by the judicial system or by the Police Department for investigation / Terrorist Threat perception.	
15.	Other	All required cable and connectors to be supplied	
16.	Quality	The Storage OEM preferably should be in the latest Gartner Leader Quadrant or should be in top 5 OEM as per IDC	
17.	Warranty	5 Years Comprehensive onsite OEM Warranty	

**ITEM NO 12: SECONDARY STORAGE (A)**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		

S. No	Item	Description of Requirement	Compliance (Yes/No)
2.	Model		
3.	No. of Drives	6	
4.	Native data Capacity	Min. 6.0 TB	
5.	Max. Uncompressed Speed	Min. 300MB/s native Up to 750 – 758 MB/s compressed	
6.	Compression capable	2.5 : 1 (Compressed capacity – uptoMin. 15TB)	
7.	No. of Active Media Slots	80	
8.	No. of Physical Media Slots	400 Media cartridges should be moved from active slots to physical slots on user action/console with in the library using internal robotics.	
9.	Data Cartridge	LTO-7 (rewritable) LTO-7 Cleaning cartridge: LTO Universal Cleaning Cartridge	
10.	Backward Compatibility	Read/write LTO-6 media. Reads LTO-5 media.	
11.	Interface	8Gb/s Dual Port Fibre Channel (auto-negotiates to 4Gb/s);	
12.	Media cartridges	400 LTO-7 media cartridges	
13.	Redundant Power Supply	Yes	
14.	Reporting feature	Yes	
15.	Additional Rack	One rack is provisioned for secondary storage. However if any additional rack is required, bidder has to provide the same having specification mentioned in RFP at Item No 4 and include the cost in secondary storage only.	
16.	Warranty	5Years Comprehensive onsite OEM Warranty	

### B) Shared File System Tape Library

S. No.	Item	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	The Shared SAN File System software shall support large file systems and in-Built data archiving to tape mechanism ,scaling to Petabytes(PB)	

S. No.	Item	Compliance (Yes/No)
4.	The Shared SAN File System shall provide low latency, high throughput concurrent data access to all the clients on SAN connected and LAN connected systems. For LAN Clients, File system can use any server on SAN as a Gateway to to get the access of the Data for LAN Clients.	
5.	The Shared SAN File System shall support automatic placement of the files created by the user / applications into appropriate multi-vendor storage arrays/ pools/based on the defined affinity policies.	
6.	The Shared SAN File System shall support heterogeneous clients on SAN network with shared data access of the same data set. Heterogeneous clients include Microsoft Windows, Red Hat Enterprise Linux & SUSE Linux.	
7.	The Shared SAN File System shall provide NFS/NAS services to LAN clients supporting load balancing, failover and teaming of network cards.	
8.	The Shared SAN File System shall permit consolidation of Storage Arrays with different capacities, performance capabilities and make and model into a common storage pool.	
9.	Offered solution shall be installable on to the Servers for the metadata Controller configuration. For the best performance of the Metadata Server configuration shall support to run on an industry standard servers with a Good configuration.	
10.	Offered filesystem shall have the inbuilt Data Archiving functionality as a single software and single GUI to move the data on to Tape Library in native file format and leave the Stubs on to primary Storage. Offered file system shall also have the inbuilt functionality of retrieving the data from Tape active slots in native file format to Primary storage through the VMS application by accessing the stubs on the Primary Storage	
11.	Shared SAN File System should be capable of recovery in case of system crash or unplanned shutdown.	
12.	Addition, deletion or failure of any clients shall not have any effect on file system functionality.	
13.	Under the implementation of highly available architecture - (System configuration with adequate redundancies and architectural feature), the Shared file system shall assure continuity of support under all modes of single point failures. This shall include (but not limited to) failure of metadata server and/or any of its subsystems/ components, failure of any of switch / failure of any of interfaces interconnecting the servers and clients with the storage and network resources.	
14.	The Shared SAN File System shall support multi-vendor switches.	
15.	The Shared SAN File System shall support enabling of Storage allocation quotas at user and group and Project levels.	
16.	The Shared SAN File System should present a single global namespace view of all the files and directories in the file system to all the heterogeneous clients.	
17.	The Shared SAN File System should present the location of the file with the same file path and filename to all its clients.	
18.	The Shared SAN File System should allow multiple clients to access the same file for concurrent read.	
19.	Metadata server should support file sharing locks to assure integrity while supporting concurrent access	
20.	The file system should support POSIX locks in addition to native locking mechanism.	

S. No.	Item	Compliance (Yes/No)
21.	The Shared SAN File System shall allow online expansion and retirement of storage capacity and disk array swap-outs without taking the file system off line. This includes adding addition disks to existing storage arrays, adding incremental or new storage arrays, and/or the removal of older arrays in replacement of new storage subsystems	
22.	Shall have automated de-fragmentation capabilities	
23.	Shall have administration capabilities through GUI and CLI	
24.	Shall provide capabilities for user administration	
25.	File system shall provide features for file system audits	
26.	File system shall provide extensive alert capabilities.	
27.	The Shared SAN File System shall support replication for Disaster Recovery	
28.	Bidder has to estimate licensing requirement for server, workstations and storage equipment's. It is the bidder responsibility to make the solution operational as per RFP requirement.	
29.	Bidder has to maintain a copy of audio and video recording, configuration of all virtual machines and application software from all storage appliances and servers installed in datacentre.	
30.	Warranty/Technical Support: 5 Years Comprehensive onsite OEM Warranty with necessary updates, upgrades and patches	

**ITEM No 13 : SAN Switch**

S. No.	Description of Requirement	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	The SAN Switch solution should be highly available with no single point of failure	
4.	Switch should support non disruptive Micro code/Firmware upgrade	
5.	Bidder should provision for a highly available fiber channel switch architecture with no single point of failure	
6.	Switch shall support minimum 48 ports X16 Gbps (with port activation licenses). However bidder has to ensure sufficient number of ports of 16 Gbps looking to the overall solution requirement of the project	
7.	The switch shall support Port zoning and LUN zoning, GUI management software	
8.	The SAN switch should have capability to interface with HBA of different makes and model from multiple OEM, supporting multiple Operating Systems, including, but not limited to HP-UX, IBM AIX, Linux, MS-Window, Sun Solaris etc. The SAN switch should support all leading SAN disk array and tape libraries including, but not limited to, EMC, Hitachi, HP, IBM, Sun, NetApp etc.	
9.	Product shall be provided with all the required licenses, software required accessories, cable etc. as applicable to meet all the above mentioned specification and hence the proposed solution.	
10.	HBA Cables shall be provided by the Bidder to meet the solution requirement	
11.	Warranty :5 Years Comprehensive OEM Warranty	

**ITEM No 14 : Access Switch**

S. No	Minimum Required Specifications	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	19" Rack Mountable stackable switch with min 24 Nos. 10/100/1000BaseT ports and Min. 2 Nos. SFP+ slot to accommodate 10G Ports	
4.	Switch should support for minimum 80 Gbps of throughput & minimum 65.5 mpps forwarding rate	
5.	The switch should have dedicated stacking port separate from uplink ports with 50 Gbps of stacking bandwidth.	
6.	Shall support external/internal redundant power supply	
7.	Switch shall support IEEE 802.3ad Link Aggregation Control Protocol (LACP) with up to 8 links (ports) per trunk.	
8.	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.	
9.	Switch should support minimum 8000 MAC address per switch	
10.	Should support a mechanism to detect connectivity issues with both fiber and copper cabling.	
11.	Switch should have feature to protect access ports using port security, TACACS+, Radius, storm control, Access Control List both port ,vlan based.	
12.	The switch should support IPv6 RA-Guard, DHCP-Guard, Source-Guard features and IPv6 first-hop security or equivalent	
13.	Switch shall support management access (CLI, Web, MIB) securely encrypted through SSHv2, SSL, and SNMPv3.	
14.	Switch should support queuing as per IEEE 802.1P standard on all ports with mechanism for traffic shaping and rate limiting features for specified Host, network, Applications port (TCP, UDP) etc.	
15.	Switch should be EAL3 or NDPP & IPv6 ready logo certified from day one	
16.	Router and Switch OEM should be in Gartner Magic leaders quadrant or IDC top 3 vendors for networking for last 3 yrs	
17.	Warranty: 5 Years Comprehensive OEM Warranty	

**ITEM No 15 : Core Switch-Data Center**

S. No	Minimum Required Specifications	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	Layer-3 Switch. 19" Rack Mountable with minimum 20 no of 10G SFP (SX based) & 4 no of 1GE ports.	
4.	1+1 Redundant and hot swappable, load sharing Power supply & redundant FAN	

5.	Two core switches will be connected in 100% redundancy with support for active/active configuration to avoid single point of failure in network.	
6.	The Switch Should support atleast 250 Gbps of switching capacity with 100 mpps of forwarding rate for both IPv4 & IPv6 from day one.	
7.	The switch should support 48K IPv4 and IPv6 unicast routes, 24K multicast routes, 48K MAC address and 20k ACL	
8.	The Switch Should support IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Reconfiguration of Spanning Tree, IEEE 802.1s Multiple VLAN Instances of Spanning Tree, IEEE 802.3ad LACP, IEEE 802.1p CoS Prioritization, IEEE 802.1Q VLAN, IEEE 802.1X User Authentication	
9.	The Switch Should support MLD Snooping for IPv6 in hardware, Unicast Reverse Path Forwarding for IPv6 in hardware	
10.	The Switch Should support Internet Group Management Protocol (IGMP) Snooping, IPv6 Multicast Listen Discovery (MLD), Multicast Listen Discovery snooping, IEEE 802.1AB LLDP	
11.	The Switch should have OSPF, RIP, Policy-Based Routing, BGP enabled for both IPv4 & IPv6 from day one	
12.	The Switch Should support Unicast Reverse Path Forwarding (Unicast RPF, support distributed and customized approach to event detection and recover, Dynamic Host Control Protocol server (DHCP)	
13.	The switch should support IPv6 RA-Guard, DHCP-Guard, Source-Guard features and IPv6 fast-hop security or equivalent	
14.	Switch should be EAL3 or NDPP & IPv6 ready logo certified from day one	
15.	Router and Switch OEM Should be in Gartner Magic leaders quadrant or IDC top 3 Vendors for networking for last 3 years.	
16.	Warranty: 5 Years Comprehensive OEM Warranty	

**ITEM No 16 : Core Router-Data Center**

S. No	Item	Minimum Required Specifications	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Architecture	The router shall facilitate all applications like voice, video and data to run over a converged IP infrastructure along with hardware assisted IPSEC & Network Address Translation (NAT) capability. The router should also support hitless interface protection or equivalent technology, In-band and out-band management, Software rollback feature, Graceful Restart for OSPF, BGP, LDP, MP-BGP etc.	
		The router line card must support following interface: Fast Ethernet, Gigabit Ethernet, 10G Ethernet, V.35 Serial Ports, E1, Chn E1, E3Ports.  Scalability: Router should have minimum 1 free I/O line card slot (full slot) for future expansion.	

4.	Performance	Backplane Architecture: The back plane architecture of the router must be modular. The back plane bandwidth must be 40Gbps from day one with minimum routing performance of 20 mpps from day one	
		The Router architecture should have individual dedicated control plane processor and data plane processor modules. Data plane Processor module should be independent of the control plane Processor. Control plane Processor should have support for internal memory to support multiple software images for backup purposes and future scalability.	
		The router should support the IPv4 and IPv6 DUAL-stack in hardware and software. The router should support minimum 1.5 MN IPv4 & 1.5 MN ipv6 active FIB (Forwarding Information Base) routes from day one so that these routes can be utilized for traffic forwarding	
5.	Protocol Support	The router shall have RIPv1, RIPv2, RIPng, OSPFv2 & v3, Policy Based Routing for both IPv4 & IPv6, IP Multicast Routing Protocols to facilitate applications such as streaming, webcast, command & control including PIM SM, PIM SSM, GRE (Generic Routing Encapsulation) Tunneling& following MPLS features – LDP, Layer2 VPN such as EoMPLS with LDP signaling, Route Reflector (RR),Traffic Engineering with RSVP-TE, Fast Reroute Link Node & Path protection enabled from day one.	
		The router shall support dual stack IPv6 on all interfaces and IPv6 over IPv4 tunneling.	
6.	QoS Features	The router shall perform traffic Classification using various parameters like source physical interfaces, source/destination IP subnet, protocol types (IP/TCP/UDP), source/destination ports, IP Precedence, 802.1p, MPLS EXP, DSCP and by some well-known application types through Application Recognition techniques. Router should support upto 128K queues with 3 level of hierarchical queues from day one.	
7.	Security Feature	The router shall meet the following requirements for security: Access Control List to filter traffic based on Source & Destination IP Subnet, Source & Destination Port, Protocol Type (IP, UDP, TCP,ICMP etc.) and Port Range etc.	
		The router should have firewall service in hardware on all interfaces with built-in firewall capacity of 10Gbps for enhanced security to protect the backbone network from malicious activities without impacting the overall performance of the router.	

		Router should have at least 5Gbps of IPSEC throughput from day one (1). VPN box and router should be from the same OEM in case if bidder is positioning external VPN box. In case of external VPN box, bidder should propose the hardware with necessary 10Ginterface and redundant power supply. The proposed router should have embedded support for 500 IPsec tunnels from day one, which can be activated by either a software/license upgrade anytime in future.	
8.	Management	The router must support management through SNMPv1, v2 and v, support RADIUS and TACACS. The router must role based access to the system for configuration and monitoring. The router shall be provided with IETF standards based Netflow version 9 or equivalent feature so that granular traffic analysis can be performed for advanced auditing, usage analysis, capacity planning or generating security telemetry events, also the router shall have SLA monitoring tools to measure state of the network in real time. The SLA operations shall provide information on TCP/UDP delay, jitter, application response time, VoIP MOS score, Packet Loss etc.	
9.	Interface Requirements:	Each Router should be provided with 10 x 1 GE& 2 x10GE ports. All modules interfaces should be hot swappable in nature.	
10.	Certification:	Router should be EAL4 or NDPP certified	
11.	Others	If any of the mentioned features are not supported on the Router Chassis, additional hardware must be proposed from day 1.	
12.	Quality	Router and Switch OEM should be in Gartner Magic leaders quadrant or IDC top 3 vendors for networking for last 3 yrs	
13.	Warranty	5 Years Comprehensive OEM Warranty	

**ITEM No 17 : LED (Professional Display to be used for Video Wall)**

#	Features	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Screen Size	55 inch	
4.	Panel Type	Direct LED	
5.	Aspect Ratio	16:9	
6.	Resolution	1920x1080 (FHD)	
7.	Brightness	500 Cd/m2	
8.	Display Color	Minimum 8 bit -16 million	
9.	Response Time	<= 12 ms (G to G)	
10.	Viewing Angle	178/178	
11.	Bezel Width	Maximum 2.3 mm(U/L) and 1.3 mm(R/B)	



#	Features	Description of Requirement	Compliance (Yes/No)
12.	Bezel Color	Black	
13.	Inputs Ports	RGB,DVI-D, Display Port 1.2, HDMI, USB 2.0/3.0	
14.	External Control	RS232C (In/Out) , RJ 45	
15.	Remote Control	Wireless remote control with each display unit along with batteries	
16.	Certification's	Safety- UL/BIS EMC- FCC Environment- Energy Star 6.0	
17.	Usage Hours	24 hours x 7 days	
18.	Fittings and Cables	The screen should be supplied with all necessary cables for connectivity that will be required to connect to the video wall controller and/or work stations and/or any other equipment's as per the requirement of the proposed solution.	
19.	Warranty	5 years comprehensive Bidder/OEM warranty	
20.	Combination of LED's	The bidder/SI shall ensure the 2x2/3x2/3x3/4x3 etc combination of above mentioned LED tiled together contiguously to form one large Video wall. All necessary hardware (like video wall mounting bracket etc.) to stack LED screen together to be supplied, which should also be easily maintainable and accessible from the front of the video wall.	
21.	Brightness calibration	Brightness of all LED's in a video wall has to be calibrated.	
22.	Orientation:	The video wall panel should have capability to get mounted in either vertical (portrait) mode or Horizontal (Landscape) mode orientation.	

**ITEM No 18 : Display Controller for video wall (2x2)**

S. No.	Feature	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	<b>General</b>  Display Controller should be scalable to control video wall in a matrix of M x N (any combination of Row & Column) up to total of 4 screens. It should also be capable of taking universal inputs for video as well as data along with necessary wall management software's	
4.	<b>Networking</b> Dual-port Gigabit Ethernet Controller inbuilt Support for Add on Network adapters	
5.	<b>Wall configuration: 4 DVI-D/ HDMI Outputs</b>	
6.	<b>Resolution Output support: Minimum 1920x1080 or higher</b>	
7.	<b>Universal Inputs</b> 4 Universal Inputs (Should be able to accept at least 3 kinds of signals i.e. DVI/RGB/HDMI)	
8.	<b>Redundancy Support:</b> <b>System should have the redundancy support for following:</b> - Controller Hard Disk Data - Power Supply	

	- LAN	
9.	<b>Matrix Combination</b> The video wall of any matrix combination (CR) should be capable of displaying multiple type of outputs as desired in CCC facility	
10.	<b>Software</b> Compatible Video Wall Management software to meet the required functionality	
11.	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 19 : Laser Network Duplex Printer**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Print speed (A4)	Up to 35 ppm or higher	
4.	Print speed (A3)	Up to 18 ppm or higher	
5.	Print Resolution	Up to 1200 x 1200 dpi or higher	
6.	Duty cycle (monthly-A4)	Up to 65,000 pages or higher	
7.	Duplex printing option	Automatic	
8.	Network Enabled	Yes	
9.	Energy Star	Yes	
10.	Standard memory	Min. 256 MB or higher	
11.	Media Size Supported	A4,A3,B4,B5 and A5	
12.	Processor Speed	750 MHz or higher	
13.	OS	Win XP, Vista, 7,8 or higher	
14.	Accessories	USB & power cable	
15.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 20 : Laser Network Multifunction Duplex Printer**

S.No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Print speed (A4)	Up to 26 ppm	
4.	Print Resolution	Up to 600 x 600 x 2 dpi	
5.	Scan Resolution	Up to 1200 x 1200 dpi	
6.	Scan Type	Flatbed, ADF	
7.	Scan Speed (ADF)	Up to 15 ppm	
8.	Scan File Format	JPEG, TIF, BMP, GIF, PDF, PNG	
9.	Copy Resolution	Up to 1200 x 1200 dpi	

10.	Fax Resolution	203 x 196 dpi	
11.	Fax Speed Dialing, Maximum Numbers	120 numbers	
12.	Duty cycle	Up to 8,000 pages	
13.	Duplex printing option	Automatic	
14.	Network Enabled	Yes	
15.	Energy Star	Yes	
16.	Standard memory	128 MB	
17.	Media Size Supported	A4, letter and legal	
18.	Processor Speed	500 Mhz	
19.	OS	Win XP, Vista, 7,8 or higher	
20.	Accessories	USB & power cable	
21.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 21 : Rugged Vehicle Mounted Mobile Data Terminal / Tablets Windows -( 10 inch)**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Item Type	Rugged Tablet PC	
4.	Ruggedness Standards	MIL –STD810G & IP 65 tested design	
5.	CPU	Intel® Atom® Quad Core Processor(1.83 GHz or higher with min. 2 MB cache) with Intel HD Graphics (Processor released on or after Q3 of 2014) or higher	
6.	Operating System	Operating system as per solution proposed by the bidder	
7.	Memory	Min. 4GB DDR3L RAM	
8.	Storage	Min. 64 GB internal storage required Expandable via Micro SDXC slot	
9.	Display	Min. 10.1" capacitive touch display, WXGA Rugged IPS LED backlight touch display	
10.	Touch type	capacitive touch display, Operable with gloves	
11.	Display Resolution	(1280 x 800 / 1366 x 768) WXGA IPS	
12.	Network Interface	Wireless 802.11 b/g/n or 802.11ac Bluetooth 4.0	
13.	Camera	Min. 1.3 MP front-facing camera Min. 5 MP rear-facing camera autofocus with flash	
14.	Control Switch	1 x Power on/off button	
15.	Speaker & Microphone	Integrated Speaker and microphone	
16.	I/O Ports	Min. 1 x USB 2.0 or higher Min. 1 x Micro SDXC/SDXC	

		Min. 1 x SIM/Micro SIM (4G LTE compatible with bands available in India) Min. 1 x micro/mini HDMI /HDMI Min. 1 x audio jack for Headphone/speaker Min. 1 x DC power	
17.	GPS antenna	Required	
18.	Battery Pack	Lithium polymer battery of min. 5000 mAH	
19.	Waterproof and dustproof	Water and dust resistance	
20.	Shockproof	<ul style="list-style-type: none"> <li>Resists drops from min. 4 feet</li> <li>Shocks, vibrations, thermal shocks and temperature extremes</li> <li>To be used in moving vehicles</li> </ul>	
21.	Accessories	<ul style="list-style-type: none"> <li>Vehicle Dock</li> <li>Handle/shoulder strap with Pen</li> <li>Screen Protector</li> <li>Charging Adapter</li> </ul>	
22.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	


**ITEM No 22 : Camera for Internal Surveillance**

S.No.	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Video Compression	H.264 or better	
4.	Type	Dome Type	
5.	Video Resolution	1920 X 1080	
6.	WDR	Required (>70db)	
7.	Automatic Gain Control	Required	
8.	Frame rate	25 fps in all resolutions	
9.	Image Sensor	1/4" / 1/3" Progressive Scan CMOS	
10.	Lens Type	Varifocal, IR Correction	
11.	Lens	Fixed IRIS 2.8-10mm, F1.7, 3x optical zoom,10x digital zoom	
12.	Minimum Illumination	0.9 lux	
13.	Image settings	Compression, colour, brightness, sharpness, contrast, white balance, exposure control, backlight compensation, rotation	
14.	Protocol	HTTP, HTTPS, FTP, SMTP, RTSP, RTP, TCP, UDP, RTCP, DHCP	
15.	Security	Password Protection, IP Address filtering, User Access Log	
16.	Operating conditions	0 to 50°C	
17.	Casing	Tamper Resistant casing for Indoor Environment	
18.	Standard	ONVIF Compliant	
19.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 23 : Network Video Recorder for internal surveillance**

S. No.	Features	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	<b>VIDEO</b>		
4.	Video Inputs	16 IP Cameras with min. 720p	
5.	Camera Support	ONVIF Compliant	
6.	Video Output	1 HDMI,1 VGA OUT	
7.	Display Resolution	Min. 1920×1080,1600×1200,1280×720	
8.	Display Speed	16 channel real-time live	
9.	Digital Zoom	Yes	
10.	<b>RECORDING</b>		
11.	Video Compression	H.264	
12.	Throughput	Min. 100 Mbps	
13.	Recording Resolutions	1920x1080, 1280x720, 704x480, 352x240	
14.	Trigger events	Alarm in, Audio detection, Motion Detection, Trip-zone, Tampering, Video loss	
15.	<b>PLAYBACK</b>		
16.	Performance	Up to 16 channel synchronous playback	
17.	Digital Zoom	Yes	
18.	<b>STORAGE</b>		
19.	Internal	SATA HDD x 4(supplied with 2x3TB HDD)	
20.	External	Min 1 eSATA port (Up to 3TB capacity for each HDD)	
21.	<b>NETWORK</b>		
22.	Connection	16 x RJ-45 independent 100 Mbps PoE interface	
23.	Remote Data Export	Clip Copy, AVI, JPG	
24.	<b>AUDIO</b>		
25.	Audio Communication	Two way	
26.	Audio In/out	Local (NVR): 1 RCA/ 1RCA+1 HDMI (IP Camera: 16 )	
27.	Audio Compression Support	Yes	
28.	<b>PORTS</b>		
29.	Alarm In	Local (NVR): 4TTL (IP Camera: 16 )	
30.	Alarm out	Local (NVR): 1 Relay out/IP camera (IP Camera: min. 4 )	
31.	Alarm Reset in Serial Interface	1 TTL RS232 (Terminal block), RS485 (Terminal block)	
32.	USB	Min. USB 2.0/3.0 x2	
33.	<b>GENERAL</b>		
34.	Certification	FCC,UL,CE	
35.	Chassis	Rack mountable	
36.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 24 : Table**

S. No.	Description of Requirement	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	<p><b>GENERAL REQUIREMENTS AND SPECIFICATIONS FOR CONSOLE SYSTEM</b></p> <p>The following specifications detail the minimum requirements of the Console System. Bidders must respond on the enclosed chart. This allows for a point-by-point technical response stating compliance, taking exception or providing requested information. Bids submitted without this chart will be considered non-responsive.</p> 	
4.	<p><b>Vendor shall supply the following to obtain project level approval:</b></p> <ul style="list-style-type: none"> <li>• Copy of ISO 9001:2008 Certification.</li> <li>• Copy of Green guard certifications for full console. Certification for compliance with minimum indoor air quality standards.</li> <li>• Copy of FSC certification (Forest Stewardship Council) for Wood Components. Certificate for compliance towards sustainable forest initiative ensuring wood used is from sustainable forest harvesting.</li> <li>• Detailed CAD (PDF format) drawings of console and equipment layouts for coordination of site measurements, architectural, mechanical, and electrical project elements for each console type.</li> <li>• Copy of test certification for ASTM E84-06a for surface burning characteristics of products and materials. Test must reference the actual assembled components for wood-core panels including core, laminates and edging.</li> <li>• Copy of test certification for the following ANSI/BIFMA test procedures performed by an independent testing laboratory or approved by a professional engineer: <ul style="list-style-type: none"> <li>a. Concentrated Functional Load Test</li> <li>b. Distributed Functional Load Test</li> </ul> </li> </ul>	

	<p>c. Concentrated Proof Load Test  d. Distributed Proof Load Test  e. Leg Strength Test  f. Stability under Vertical Load Test</p> <p>The tests must be based on the ANSI/BIFMA X5.5-2008 Standard applied to the proposed product solution.</p> <ul style="list-style-type: none"> <li>• Detailed CAD (PDF format) drawings of each console type with its specific equipment per application.</li> <li>• Renderings of consoles and room upon request.</li> <li>• Pre-production review, to include a drawing submittal and component listing complete with samples of selected finish materials upon request.</li> <li>• Samples of the following material components, which demonstrate workmanship, shall be provided upon request: <ul style="list-style-type: none"> <li>a. Work surface sample with ergonomic nosing.</li> <li>b. Sample panel construction and finish materials.</li> </ul> </li> <li>• Ergonomic Compliance report as per ISO-11064 to be submitted along with the BID.</li> <li>• The consoles shall be suitable for areas of Seismic zone, In Rajasthan it should be Zone 4 or better.</li> <li>• All metal components shall be ROHS certified. (No hazardous substance should be used).</li> </ul>	
<p>5.</p>	<p><b>Stability – Function</b></p> <ul style="list-style-type: none"> <li>• The Console System shall be designed specifically for 7x24 mission critical environments such as System Control centers, Network Operation Centers, etc. Standard office grade, post and panel furniture will not be acceptable.</li> <li>• The primary structural foundation for the Console System shall be manufactured of durable materials that will withstand the 7x24 mission critical environment. Structural integrity of the Console System is a priority; therefore “cubicle” type walls shall be deemed unacceptable.</li> <li>• The console structure, sub structure and frame must form a freestanding unit independent of the exterior cladding.</li> <li>• Console System must be of modular design, facilitating future equipment retrofits and full reconfigurations without requiring any major modification to the structure or exterior elements.</li> </ul>	
<p>6.</p>	<p><b>Structural Integrity</b></p> <ul style="list-style-type: none"> <li>• Frame shall provide optimal structural integrity, unrestricted cable management and access, and vertical/horizontal modularity. Cantilevered supports are used as needed to enable free leg swing under work surfaces.</li> <li>• Console frame structural components shall be cold rolled steel sheet metal (minimum 14-gauge)/ Extruded Aluminum Frame of min 13 gauge or better. These components ensure square, rigid connection of the front portal to the rear frame assembly, module-to-module connections at corner positions, and attachment of front, rear and end panels. Sheet metal parts to be produced on CNC machines to ensure precision. All sheet metal parts must be finished with a durable, black, electrostatic powder coating.</li> <li>• The standard frame width shall be available in (5) nominal sizes: 580-650mm, 730-800mm, 1160-1250mm, 1460-1550mm and 1760-1850mm with an overall height of 711-762 mm to correlate to standard seated height</li> </ul>	

	<p>applications. Custom frame widths and heights must be available to correlate to non-standard room and/or equipment applications.</p> <ul style="list-style-type: none"> <li>• The standard frame depth shall be available in (2) nominal sizes: 350-380mm and 650-680mm to correlate to standard tower computer storage requirements in a transverse (side-to-side) orientation and a front-to-back orientation, respectively. Custom frame depths must be available to correlate to non-standard room and/or equipment applications.</li> <li>• Four (4) adjustable levelers are included to properly level each standard frame. Structural support feet of 50mm x 25mm steel tube (powder coated w/ an adjustable leveler) shall be included for stability where required depending on the console layout and equipment applications. Four adjustable leveler as per approval.</li> <li>• The base of the frame (area of frame parallel to flooring) and the top of the frame shall be permeated with multiple cable portals. The portals in the base of the frame shall permit vertical cable management from flooring to a lower horizontal cable tray and to the inner frame cavity. The portals in the top of the frame shall permit vertical cable management from the inner frame cavity to an upper horizontal cable tray (and to a (optional) rear wall structure) with removable rear work surface covers that shall create instant access into the frame cavity from the desktop.</li> <li>• The sides of the frame (perpendicular to floor) shall have an open structure and the continuous upper and lower cable trays shall have an open structure to permit lateral cabling between frames. The console shall provide convenient open cable chases that run uninterrupted to adjacent desks in the upper and lower portion of the base units. The integrated cable tray shall be accessible by removing the access panel on the work surface. The standard finish for the monitor deck is high-pressure plastic laminate (HPL) on both sides of the work surface. A variety of cable management options accommodate electrical and data service. Termination boards are available as an option to mount outlets and jacks.</li> <li>• The steel frame/ Extruded Aluminum Frame of min 13 gauge or better shall be considered the primary structural foundation that forms a freestanding unit independent of the exterior cladding.</li> <li>• Designed with vertical and horizontal cable portals to allow for continuous cable management between frame cavities (and optional rear walls).</li> <li>• Sharp edges at the console base and in CPU cavities are not acceptable and represent potential “knee-banger” operator safety issues. All transitions and curves shall have minimum 127mm radius.</li> <li>• The laminate front and rear panels shall give the console a contemporary appeal with cutting edge cladding</li> <li>• design and color options.</li> <li>• Front and rear access doors shall provide high accessibility for installing, operating and servicing equipment.</li> <li>• It shall be possible to access the front and back through hinged lipped doors. These doors shall be easily removed by hand and permit service access to the interior of the frame.</li> <li>• The frame shall accept additional frames to create a continuous run of frames without breaks or interruptions.</li> <li>• The frames shall also accept connectors to create angled configurations without disrupting continuous lateral</li> </ul>	
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	<p>cable management among frames. Creative design layouts shall be achieved with integrated corners and mitres.</p> <ul style="list-style-type: none"> <li>Operator rows can be curved for optimal sightlines to large-screen displays. Available options include: 22.5°, 30°, and 45° short corners, 22.5°, 30°, and 45° long corners, all available at full or reduced depth. Miter angles 5°, 10° &amp; 15° are also available OR the console should be made in continuous curve.</li> <li>These connectors shall be available with concave and convex shape building options.</li> <li>Frame finish shall be a durable, black, electrostatic powder coating with a uniform application over all steel surfaces.</li> </ul>	
7.	<p><b>Modular Rear Wall (optional)</b></p> <ul style="list-style-type: none"> <li>Modular rear walls shall be vertically stackable; allowing for various viewing levels and privacy.</li> <li>Walls shall be available in 150-180 mm.</li> <li>Walls shall be capable of supporting technology integration above the work surface level.</li> <li>Modular walls shall be made of 14-gauge and 16-gauge steel/ 2mm Extruded Aluminum.</li> <li>80-100mm maximum nominal depth (to maximize usable work surface depth).</li> <li>Wall shall accept modular components like slatwall mounting system, HPL inserts, fabric inserts</li> <li>Shall allow for continuous linear run of frames.</li> <li>Walls shall be configurable to match the angle configurations of the lower frames without disrupting continuous lateral cable management among frames.</li> <li>Walls shall be finished in durable, black, electrostatic powder coating with a uniform application over all steel surfaces.</li> <li>Single and double-sided solutions shall be available.</li> </ul>	
8.	<p><b>Work surfaces</b></p> <ul style="list-style-type: none"> <li>The work surface shall be designed to provide a smooth, level work area, while complying with accepted human factors criteria. All applicable ergonomic standards will be taken into consideration<sup>1</sup>, including view and reach distances, keyboard height, and knee-well space.</li> <li>The following custom options shall be available: <ul style="list-style-type: none"> <li>a. Work surface return with support panel. (Fixed work surfaces only)</li> <li>b. Work surface return with painted metal support legs. (Fixed work surfaces only)</li> </ul> </li> </ul>	
9.	<p><b>Technology Accommodation</b></p> <p>Below Work surface Level (CPU storage). The console shall accommodate computer equipment* with a variety of optional processor shelves. Fixed shall be available with the hinged panels.</p> <p>The desk should be capable of accommodating all the hardware component as per the requirements.</p> <p>CPU Shelf Options Internal Components and Attachment:</p> <ol style="list-style-type: none"> <li>Components shall have the following properties: <ol style="list-style-type: none"> <li>Fixed processor shelf 16 Gauge Cold rolled steel, powder coated</li> </ol> </li> </ol>	

	<p>2. Processor Shelf</p> <p>a. Fixed Shelf – 200 lbs. (90 Kg) load, 14 gauge CRS, Powder coated black</p> <p>3. Maximum Equipment (Reduced Depth)</p> <p>a. Fixed Shelf – 21” (533 mm) x 8 ¾” (222 mm) x 19” (483 mm)</p> <ul style="list-style-type: none"> <li>• Termination board Options</li> <li>• Desktop Level (Under-counter and Rack-mount technology)</li> </ul>	
10.	<p><b>Above Work surface Level</b></p> <ul style="list-style-type: none"> <li>• The console shall have the ability to have flat screen monitors and various desk accessories mounted on the rear slatwall. Standard slatwall heights include 150-180mm , and can be combination slatwall and partition structure. The slatwall design can be configured to accommodate equipment mounting on both sides and in aback-to-back configuration both modules share one set of slatwall.</li> <li>• The following options shall be available: <ul style="list-style-type: none"> <li>a. Articulating monitor arm, depending on console configuration.</li> </ul> </li> <li>• Cable Management</li> <li>• Console System shall be designed to allow for unrestricted cable management and access.</li> </ul>	
11.	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Console Frame Structure <ul style="list-style-type: none"> <li>○ All sheet metal used for structural components shall be 14 Gauge cold rolled steel/ Extruded Aluminum Frame of min 13 gauge or better. These components ensure square, rigid connection of the front portal to the rear frame assembly, module-to-module connections at corner positions, and attachment of front, rear and end panels. Sheet metal parts to be produced on CNC machines to ensure precision.</li> <li>○ The Console assembly should allow all applicable shapes (Convex, concave, straight) to complement the control room.</li> <li>○ All sheet metal parts must be finished with a durable, black, electrostatic powder coating.</li> </ul> </li> <li>• Internal Components and Attachment <ul style="list-style-type: none"> <li>○ Components shall have the following properties: <ul style="list-style-type: none"> <li>a. Work surface support arm 12 Gauge Cold rolled steel, powder coated</li> <li>b. Work surface support stiffener 14 Gauge Cold rolled steel, powder coated</li> <li>c. Fixed processor shelf 16 Gauge Cold rolled steel, powder coated</li> </ul> </li> </ul> </li> <li>• Worksurfaces and Panels <ul style="list-style-type: none"> <li>○ Panels and worksurfaces shall have the following properties: <ul style="list-style-type: none"> <li>a. Materials: 1” (25mm) particleboard/ 25mm thick Medium Density Fiber board (MDF), high-pressure laminate surface</li> <li>b. Finish Horizontal grade laminate.</li> </ul> </li> </ul> </li> </ul>	

	<p>c. Static Load 50-lb./ linear ft. d. Surface to Floor Distance Fixed 29"-29.5" (737- 750mm) 27 ½"-28.15" (692-715mm) clearance</p> <ul style="list-style-type: none"> <li>○ Panels shall have the following properties: <ul style="list-style-type: none"> <li>a. The console must offer hinged clipped panels as an option for front and back. Hinged panels will hinge from the column. Standard is a low pressures laminate surface. Custom options include High-pressure laminate or Veneer. <ul style="list-style-type: none"> <li>b. End Panels: 1 in Thermofused Melamine Laminate(LPL).</li> <li>c. Lower/Intermediate Panels ¾ in Thermofused Melamine Laminate (LPL).</li> </ul> </li> </ul> </li> <li>○ The work surface shall be supplied with a nosing(waterfall edge). The nosing shall comply with the characteristics as follows: Should be manufactured from high impact polyurethane edging OR Moulded Polyurethane edging directly over the wooden top. So that it can not be removed from table. Comfortable and ergonomically sound.</li> <li>○ Allows for curved sections with a min. 356mm radius.</li> <li>○ No T-Mold or flat edge banding will be accepted at the front edge for nosing.</li> <li>○ Slatwall Component</li> <li>○ Slatwall shall be 6063-T6 Extruded Aluminum, fully anodized, black in color.</li> </ul>	
<p>12.</p>	<p><b>Space Planning and Configuration Design</b></p> <ul style="list-style-type: none"> <li>● Each bidder must submit a floor plan to scale, showing each item being proposed.</li> <li>● Elevation and section drawings will be required in the submittal with dimensions of height, width, and depth in order to determine compliance with the specifications.</li> <li>● Photo-realistic isometric color renderings of consoles and room upon request.</li> <li>● All accessories being proposed need to be shown in drawings.</li> <li>● Colors are to be selected from manufacturer’s standards. A Color Guide shall be submitted with the proposal.</li> </ul>	
<p>13.</p>	<p><b>Schedule</b></p> <p>Upon award of the contract supplier shall provide a schedule with exact dates for the following milestones:</p> <ol style="list-style-type: none"> <li>1. Detailed requirements analysis.</li> <li>2. Final design submittal.</li> <li>3. Pre-production approval submittal.</li> <li>4. Fabrication period.</li> <li>5. Factory acceptance/packing &amp; shipping.</li> <li>6. Delivery date.</li> <li>7. Installation.</li> </ol>	

14.	<p><b>Warranty Details</b></p> <p>The Console System shall be free from defects in materials and workmanship from the date of transfer of title as follows:</p> <p>a. LIFETIME WARRANTY on all fixed structural frame components;</p> <p>b. LIFETIME WARRANTY (parts) on all static exterior panels and work surface component parts; (5 years on labor);</p> <p>c. LIFETIME WARRANTY (parts) on all adjustable, sliding or hinged mechanisms or parts (5years on labor);</p> <p>d. FIVE year warranty on electrically actuated linear lift columns;</p> <p>e. Bidder/OEM warranty on all buyouts.</p>	
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**ITEM No 25 : Chair**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	CHAIR STRUCTURE 	The seat & Back are made up of 1.2 +/- .1 cm thick hot pressed plywood measured as per QA method and upholstered with fabric upholstery covers and moulded polyurethane foam. The back form is designed and contoured lumber support for extra comfort. The seat has extra thick foam on front edge to give comfort to popliteal area.	
3.	MID BACK SIZE	47.5 W X 58 H cm	
4.	SEAT SIZE	47 W X 48 D cm	
5.	FOAM DENSITY	The HR polyurethane foam is moulded with density $45 \pm 2$ Kg/m <sup>3</sup> and hardness $16 \pm 2$ kgf as per IS :7888 for 25% compression	
6.	Pneumatic Height Adjustment	The pneumatic height adjustment has an adjustment stroke of 12 +/- .3 cm.	
7.	ARMRESTS	The one piece armrests are injection moulded from black co-polystyrene polypropylene.	
8.	REVOLVING MECHANISM	The chair has mechanism 360 degree revolving type.	
9.	WHEEL CASTORS	The twin wheel castors are injection moulded in Black Nylon.	
10.	TELESCOPIC BELOW ASSEMBLY	The below assembly is 3 piece telescopic type injection moulded in black polypropylene	
11.	PEDESTAL ASSEMBLY	The pedestal assembly is injection moulded in black 33% glass filled Nylon 66 and fitted with 5 twin wheel castors. The pedestal is $66.3 \pm .5$ cm pitch center dia $76.3 \pm 1$ cm castors.	
12.	COLOR OPTIONS	Color options should be available viz. Blue, Red etc. (Color shall be decided at the time of order)	
13.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 26 : Water Leakage Detection System**

S. No	Description of Requirement	Compliance(Yes/No)
1.	Make:	
2.	Model:	
3.	<b>General:</b> The Tenderer shall be responsible to supply, deliver, install, test, commission and maintain of a proven technology and industry standard solution for a water detection system in the Data Center.	
4.	The complete system shall include electronic alarm panel, sensing cable, 4x20 alphanumeric display, and auxiliary equipment, as indicated on the design drawings. The system shall simultaneously detect the presence of water at any point along the cable's length and switch the module's leak alarm relays.	
5.	The sensing cable shall be of such construction by using Non-conductive polymers in the leak detection cable's construction. The Sensing Cable shall be an abrasion resistant polymer cores to increases the strength of the cable. Pressure on the sensing cable shall not create a false alarm.	
6.	The Digital Sensor Cable shall be provided with pre-connectorised sensing cable components.	
7.	<b>Alarm Panel</b> The alarm panel shall be capable of monitoring up to (30 meters) of sensing cable.	
8.	The alarm Panel shall have LEDs indicating "power" (green), "alarm" (red), and "continuity" (yellow). The system shall sound an audible alarm upon sensing a leak. The unit can then continue to monitor and will re-alarm if there are any major changes. Once the alarm condition has been cleared, the panel is reset with a single keystroke. The Panel shall have 4x20 alpha numeric display with adjustable contrast.	
9.	Basic Features of the alarm panel	
10.	In addition to detecting leaks, the system shall warn of fault conditions and indicates when service is required.	
11.	An event history log allows leaks (and other events) to be tracked.	
12.	Both the events history log and any user settings are held in non -volatile memory. Event log shall stores 50 date and time stamped alarm.	
13.	The alarm module will be powered by 230 VAC. The panel shall have a pair of contacts open on an alarm, and a pair of contacts close on an alarm. These contacts shall be used to actuate other alarms and shall be capable of switching 10 amps at 250 VAC.	
14.	In additions, the panel shall be provided with RS-485 series port for connection to building management system & shall have slave Modbus RTU protocol	
15.	The module enclosure shall be NEMA 1, constructed of 18- gauge steel with Siemens gray colour Powder Coated. The enclosure shall be capable of either semi flush of surface mounting.	
16.	<b>Sensing Cable</b> The water sensing cable shall detect the presence of water and other conductive fluids. The sensing technology shall be very low current AC signal and not DC signal to avoid corrosion when subject to wetness for long period.	

17.	<b>Accessories</b> A Complete system accessories (leader cable, end terminations, etc.) shall be provided by the system manufacturer.	
18.	Installation: All conduiting / wiring /Trays /channels /trenches /pipes etc. for completion of Job	
19.	Warranty: 5 Years Comprehensive onsite Bidder/OEM Warranty	
20.	Preferred Makes: WLD Panel : C Systems/ STAR Electronics	

**ITEM No 27 : Rodent Repellent System**

S. No.	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Objective	The purpose is to keep the rodents away from the floor by generating very high frequency sound waves (above 20 KHz) which are not audible to human ear but irritates rodents. The objective is to protect all the cables below floor, above ceiling & room void from damage caused by rodents	
4.	Place of Installation	Data Center, Video Surveillance Room, FMS/NOC Room, Dial 100 Room, UPS/Electrical Room, Forensic Room	
5.	Main Console	Maser / C Systems	
6.		The system proposed is to protect all the equipment's, areas with relevant type of high frequency sound producing device called satellites or transducers. Once powered up these transducers produce very high frequency variable sound waves (above 20 KHz) continuously which irritate the rodents and are forced to evacuate the place. The system shall cover minimum of 2000 sq.ft. area per controller & shall be able to connect minimum 12 transducers per controller. The transducers shall cover minimum 250 sq.ft. of area. The devices can be tested periodically by means of a test switch provided on the Main console	
7.	Satellites (Maser/C Systems)	The satellites or Transducers shall be circular ceiling mounted low profile units that produce high decibel sound waves at very high frequency not less than 20 KHz. These satellites shall cover an area not less than 400 Sq.ft for Room void application, for ceiling Voids & floor void applications. No looping is permitted while connecting the satellites to the main controller. Every satellite connected to the controller shall have a dedicated connection with the controller	
8.	Controllers	The controller shall support 12 Transducers and shall come with a pair of stands and brackets. The controller is installed in the data center and the transducers in the problematic	

		<p>areas i.e. above and below false ceiling and below false flooring. Controller Features :</p> <ul style="list-style-type: none"> <li>• 2000 Sq. Feet of Area Coverage per system/ Controller.</li> <li>• Shall drive up to 12 Transducers. With minimum @ 250sft coverage each.</li> <li>• LCD display with on-board controls for changing parameters</li> </ul>	
9.	Installation	All conduiting / wiring /Trays /channels /trenches /pipes etc. for completion of Job	
10.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 28 : Access Control System**

**Biometric Finger Scan Reader**

S. No	Features	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Finger Print Template	Open Standard Template (ISO based) Template should be compatible with aadhar database.	
4.	Credential Support	Fingerprint, Card and Pin	
5.	Finger Print Template	10 per user	
6.	Proximity Card	300 per site	
7.	Sensor Type	Suprema/Morpho/Cogent	
8.	Card Type Support	Proximity Card	
9.	User Capacity	50,000	
10.	Display Unit	3.5 inch TFT Display with touchscreen	
11.	Buzzer	Yes	
12.	Event Buffer	25,000	
13.	Connectivity	Ethernet and USB	
14.	Power Input	12 V DC	
15.	Operating Temperature	0° to 40°C	
16.	Sensor Resolution	500 dpi	
17.	Timing	Fingerprint Capture: Less than 5 Sec	
18.		Verification of captured finger: Less than 2 Sec	
19.	Fingerprint Enrolment Software	Yes	
20.	Certifications	STQC certified	
21.	Installation	All conduiting / wiring /Trays /channels /trenches /pipes etc. for completion of Job	

22.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	
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**Access Control Software:** The Access Control Software should have the following Specifications:

S.No	Features	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	Compatibility with any Windows Operating System	
4.	Compatibility with MYSQL / SQL / ORACLE	
5.	Support for TCP/IP Communication	
6.	Provision for Alarm Monitoring for Battery, Mains Supply, Door Opened too Long, Door Forced Opened, Unauthorized Swipe & Controller Tampering	
7.	Support for unlimited number of Card Database & Transactions	
8.	Specify Card Activation & Expiry Date	
9.	Support for Biometric, Pin & Smart Card Applications	
10.	Management of Dual Access Levels to a single Card	
11.	Remote Locking & Unlocking of Doors	
12.	Remote management of Controllers	
13.	Customization of Door User time for every card holder	
14.	One Client License	
15.	Two Stages of Alarm Management (Acknowledgement on Receipt & Closure on Investigation)	
16.	Access Privileges on the basis of Time & Date	
17.	Creation of holiday schedules to cover maintenance & Vacations / Holidays	
18.	Setting of Time / Date	
19.	Permission to activate any control output for a specific event such as alarm	
20.	Programmable Shunt time to control the door opening time	
21.	Area Control by using Hard Anti Pass back, Soft Anti Pass back, Timed Anti Pass back, Occupancy Limit, Multi man principle, Area Lock down, Threat level conditioning.	
22.	Alarm Management	
23.	Automatic User Log off	
24.	Cardholder Management & Enrolment	
25.	Creation & Maintenance of User Database	
26.	Assignment of Access Privileges	
27.	Shall be capable to enrol biometric fingerprint templates	
28.	STQC certified enrolment biometric device to be provided	
29.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty with necessary updates, upgrades and patches	



**ITEM No 29 : Fire Alarm System**

S. No	Minimum Required Specifications	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	<p><b>MAIN FIRE ALARM CONTROL PANEL (FACP)</b></p> <p>B. The main FACP Central Console shall contain a microprocessor based Central Processing Unit (CPU). The CPU shall communicate with and control the following types of equipment used to make up the system: intelligent addressable smoke and thermal (heat) detectors, addressable modules, control circuits, and notification appliance circuits, local and remote operator terminals, printers, annunciators, and other system controlled devices.</p> <p>C. Information is critical to fire evacuation personnel, and it contains large 640-character Liquid Crystal Display (LCD) presents vital information to operators concerning a fire situation, fire progression, and evacuation details. A host of other options are available, including single- or Multichannel voice; firefighter's telephone; LED, LCD, or PC based Graphic annunciators; fire or integration networking; advanced detection products for challenging environments, and many additional options.</p>	
4.	<p><b>Panel Components &amp; functions</b></p> <p>The control panel(s) shall be a multi-processor based networked system designed specifically for fire, smoke control, extinguishing agent releasing system. The control panel shall be UL/FM/ EN listed The control panel shall include all required hardware, software and site specific system programming to provide a complete and operational system. The control panel(s) shall be designed such that interactions between any applications can be configured, and modified. The control panel(s) operational priority shall assure that life safety takes precedence among the activities coordinated by the control panel.</p> <p>The control panel shall include the following capacities:</p> <ul style="list-style-type: none"> <li>• Support up to minimum 90 detectors &amp; 90 devices</li> <li>• Support up to minimum 180 addressable points.</li> <li>• Support multiple digital dialers and modems</li> </ul> <p>The control panels shall include the following features:</p> <ul style="list-style-type: none"> <li>• Provide electronic addressing of analog/addressable devices.</li> <li>• Provide an operator interface control/display that shall annunciate command and control system functions.</li> <li>• Provide an internal audible signal with different programmable patters to distinguish between alarm, supervisory, trouble and monitor conditions.</li> <li>• Provide a discreet system control switch provided for reset, alarm silence, panel silence, drill switch, previous message switch, next message switch and details switch.</li> <li>• Provide system reports that provide detailed description of the status of system parameters for corrective action or for preventative maintenance programs.</li> <li>• Provide an authorized operator to perform test functions within the installed system.</li> </ul>	
5.	<p><b>Power Supply</b></p> <p>System power supply(s) shall provide multiple powers limited 24 VDC output circuits as required by the panel. Upon failure of normal (AC) power, the affected portion(s) of the system shall automatically switch over to secondary power without losing any system functions. Each system power supply shall be</p>	

	<p>individually supervised. Power supply trouble signals shall identify the specific supply and the nature of the trouble condition.</p> <p>All standby batteries shall be continuously monitored by the power supply. Low battery and disconnection of battery power supply conditions shall immediately annunciated as battery trouble and identify the specific power supply affected. All system power supplies shall be capable of recharging their associated batteries, from a fully discharged condition to a capacity sufficient to allow the system to perform consistent with the requirements of this section, in 48 hours maximum.</p> <p>All AC power connections shall be to the building's designated emergency electrical power circuit and shall meet the requirements of NFPA 72 - The AC power circuit shall be installed in raceway. The power circuit disconnect means shall be clearly labelled FIRE ALARM CIRCUIT CONTROL and shall have a red marking. The location of the circuit disconnect shall be labelled permanently inside the each control panel the disconnect serves.</p> <p><b>Power supply for all input &amp; output devices to be driven from main Fire Alarm Panel.</b></p>	
6.	<b>Field Mounted System Components</b>	
7.	<p><b>Multi-sensor Photo Thermal Detector:</b></p> <p>The Multisensor or multitech smoke detector which will have both photoelectric as well as thermal detection elements shall have inbuilt microprocessor, and shall be capable of taking an independent alarm decision. The scattering of smoke particles shall activate the photo sensor. Each addressable smoke detector's sensitivity shall be capable of being programmed electronically from Control Panel without any extra tools. The detector should continue to give TRUE alarms even if the loop controller on the main panel fails. Alarm condition shall be based upon the combined input from the photoelectric and thermal detection elements. Each detector shall be capable of transmitting prealarm and alarm signals in addition to the normal, trouble and need cleaning information.</p>	
8.	<p><b>Addressable Detector Bases:</b></p> <p>The bases shall be easy to install and mount and shall be of standard type.</p>	
9.	<p><b>Manual Stations</b></p> <p>The fire alarm station shall be of polycarbonate construction and incorporate an internal toggle switch. A locked test feature shall be provided. The station shall be finished in red with silver "PULL IN CASE OF FIRE" lettering.</p>	
10.	<p><b>Intelligent Modules</b></p> <p>The personality of multifunction modules shall be programmable at site to suit conditions and may be changed at any time using a personality code downloaded from the Analog Loop Controller. The modules shall have a minimum of 1 diagnostic LEDs mounted behind a finished cover plate. The module shall be capable of storing up to 24 diagnostic codes, which can be retrieved for troubleshooting assistance. Input and output circuit wiring shall be supervised for open and ground faults.</p>	
11.	<p><b>Control Relay Module:</b></p> <p>The Control Relay Module shall provide one form "C" dry relay contact to control external appliances or equipment shutdown. The control relay shall be rated for pilot duty and releasing systems. The position of the relay contact shall be confirmed by the system firmware.</p>	
12.	<b>Isolator Module/ Bases:</b>	

	Provide intelligent fault isolators modules. The Isolator Module shall be capable of isolating and removing a fault from a class A data circuit while allowing the remaining data loop to continue operating.	
13.	<p><b>Monitor Module:</b> The Monitor Module shall be factory set to support one (1) supervised Class B Normally-Open Active Non-Latching Monitor circuit.</p>	
14.	<p><b>Sequence of Operations</b> <b>General - Audio</b> Upon alarm activation of any area smoke detector, heat detector, manual pull station, sprinkler water flow, the following functions shall automatically occur:</p> <ul style="list-style-type: none"> <li>The internal audible device shall sound at the control panel or command center.</li> </ul> <p>The following audio messages and actions shall occur simultaneously:</p> <ul style="list-style-type: none"> <li>An evacuation message shall be sounded on fire floors (zones) immediately above and below (adjacent to) the fire floor (zone), on the floor in fire condition. It is the intent of this message to advise occupants hearing this message that they are near danger and should leave the building via the stairs (nearest exit) immediately.</li> <li>Activate visual strobes on the fire floors (zones) immediately above and below (adjacent to) the fire floor (zone). The visual strobe shall continue to flash until the system has been reset. The visual strobe shall not stop operating when the "Alarm Silence" is pressed. An alert message shall be sounded on the remainder of building. It is the intent of this message to advise occupants to prepare for evacuation if necessary. An instructional message shall be sounded in the stairwells instructing occupants to move carefully and quickly down the stairs to exit the building and to exit to a safe floor if you encounter smoke in the stairwell.</li> <li>Activate automatic smoke control sequences.</li> <li>All automatic events programmed to the alarm point shall be executed and the associated outputs activated.</li> <li>All stairwell/exit doors shall unlock throughout the building.</li> <li>All self-closing fire/smoke doors held open shall be released.</li> </ul>	
15.	Installation: All conduiting / wiring /Trays /channels /trenches /pipes etc. for completion of Job	
16.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No. 30 : DG Set**

S. No	Specifications	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	<p><b>Scope of Supply</b> The scope covers supply of Diesel Generator set of stationary type having rated capacity of 125 KVA each at CCC and Atal Seva Kendra(Data Center) specified site conditions of 50° C ambient temperature and 100% relative humidity on FOR site basis. 2 No's of 125 KVA DG set shall be connected in N+1 Configuration to support the Data Centre IT load and cooling units. In case primary DG set unable to start in power fail condition other DG set shall be automatically start in stipulated time.</p>	

	<p>The engine should comply with the latest CPCB Norms of the country and equipped with:</p> <ul style="list-style-type: none"> <li>- Diesel engine complete with all accessories</li> <li>- An alternator directly coupled to the engine through coupling, complete with all accessories.</li> <li>- Automatic voltage regulator</li> <li>- Complete starting arrangement, including two nos. batteries &amp; chargers</li> <li>- Base frame, foundation bolts etc</li> <li>- Engine Cooling and lubrication system</li> <li>- Engine air filtering system.</li> <li>- Exhaust silencer package with insulation and Aluminium cladding with all structural requirements to install</li> <li>- Set of GI pipes, valves, trainers, unloading hose pipes as required for fuel transfer system from storage area to fuel tank including electrically driven fuel pump as per site requirement</li> <li>- All lubricants, consumable, touch up paints etc. for first filing, testing &amp; commissioning at site. The fuel oil for initial commissioning will also be provided by the contractor for continuous running on full load for 8 hours</li> <li>- AMF panel for control, metering and alarm</li> <li>- Enclosure for silent type D.G. Set</li> </ul>	
<p>4.</p>	<p><b>SCOPE OF SERVICE.</b></p> <p>The Contractor shall provide following services:</p> <ol style="list-style-type: none"> <li>a. Design manufacture, shop testing including assembly test</li> <li>b. Dispatch, transportation to site</li> <li>c. Erection, testing &amp; commissioning with all equipment's/material required for the purpose</li> <li>d. Drawings, data, design calculations and printed erection, operation &amp; maintenance manual.</li> <li>e. Certification and compliance for meeting noise level &amp; emission parameters and other requirements in accordance with latest Notification of MOEF.</li> </ol>	
<p>5.</p>	<p><b>TECHNICAL REQUIREMENT:</b></p> <p>The rating of DG sets is as follows:          DG set net output after considering duration for engine and alternator separately due to temperature rise in side the enclosure and on account of power reduction due to auxiliaries shall be 125 kVA, 1500RPM, 0.8Pf, 415V, 3 Phase, 50Hz. The above rating is the minimum requirements.</p> <p>DG sets shall also be rated for 110% of full load for 1 hour in every twelve hours of continuous running.          The output voltage, frequency and limits of variation from open circuit to full load shall be as follows:          Voltage variation <math>\pm 5\%</math> of the test value.          Frequency 50Hz <math>\pm 2\%</math></p> <p>The Diesel Generator and other auxiliary motor shall be of H class with temperature rise limited to Class-F for temperature rise consideration.</p>	
<p>6.</p>	<p><b>NOISE LEVEL &amp; EMISSION PARAMETERS:</b></p>	

	These shall be as per latest Notification of MOEF.	
7.	<p><b>PLANT DESIGN</b> Diesel Engine</p> <p>The engine shall comply with the IS 10002/BS 5514/ISO 3046: latest edition.</p> <ol style="list-style-type: none"> <li>Diesel engine shall be turbo charged multi cylinder V-type/in line type with mechanical fuel injection system.</li> <li>The engine with all accessories shall be enclosed in an enclosure to make it work silently (with permissible noise level) without any degradation in its performance.</li> <li>The fuel used shall be High Speed Diesel oil (HSD) or Light Diesel Oil (LDO) as per IS: 1460.</li> </ol>	
8.	<p><b>Air Suction &amp; Filtration</b></p> <p>Suction of air shall be from in-door for ventilation and exhaust flue gasses will be let out to outside atmosphere, Condensate traps shall be provided on the exhaust pipe.</p> <p>Filter shall be dry type air filter with replaceable elements.</p> <p>Fuel tank capacity should be sufficient to run for 12 hrs. Continuous with full load as specified.</p>	
9.	<p><b>AVM PADS:</b></p> <p>One set of AVM pads are included and built along with the base frame - Mounts are spring type and 99% efficient, suitable for gen set application. These mounts are placed between the engine - alternator and the base frame</p>	
10.	<p><b>FUEL AND LUBRICATING OIL SYSTEM.</b></p> <p>The engine shall have closed loop lubricating system. No moving parts shall require lubrication by hand prior to the start of engine or while it is in operation.</p>	
11.	<p><b>ENGINE STARTING SYSTEM.</b></p> <p>Automatic electric starting by DC starter motor shall be provided.</p>	
12.	<p><b>FUEL INJECTION AND REGULATOR</b></p> <p>The engine shall be fitted with electronic/mechanical governor suitable for class A- 1 as per IS 10000.</p> <p>The engine shall be fitted with a heavy, dynamically balanced fly wheel suitable for constant speed governor duty.</p>	
13.	<p><b>ALTERNATOR:</b></p> <p>The alternator shall be of continuously rated duty, suitable for 415 V, 3 phases, 50Hz, 125 KVA for full block load power development having brush-less, synchronous, self-excited, self-regulating system.</p> <p>The alternator shall be drip-proof, screen protected as per IP-23 degree of protection. The rotor shall be dynamically balanced to minimize</p>	

	<p>vibration. The alternator shall be fitted with shaft mounted centrifugal fan.</p> <p>It shall have the winding of class H but limited to Class-F for temperature rise consideration.</p> <p>The Alternator regulatory shall be directly coupled to the engine and shall be complete with the excitation system, automatic voltage regulation of +/- 1%, voltage adjusting potentiometer and under/ over speed protection.</p>	
14.	<p><b>Terminal Box:</b> Terminals shall be suitable for two runs of 3½ Core 185 mm<sup>2</sup> Aluminium cable for 125 KVA DG set. The neutral shall be formed in AMF panel. The generator terminal box shall be suitable to house necessary cables. Minimum two (2) no's of earthing terminals are to be provided for neutral in the terminal box in addition to the regular earthing points of the generator body.</p> <p>The alternator with all accessories shall be enclosed in an enclosure to make it work silently (within permissible noise level).</p>	
15.	<p><b>COUPLING:</b></p> <p>The engine and alternator shall be directly coupled by means of self-alignment flexible flange coupling to avoid misalignment.</p> <p>The coupling shall be provided with a protecting guard to avoid accident contract.</p>	
16.	<p><b>MOUNTING ARRANGEMENT:</b></p> <p>The engine and alternator shall be mounted on a common heavy duty, rigid fabricated steel base frame constructed from ISMC of suitable sections.</p> <p>Adequate number of anti-vibration mounting pads shall be fixed on the common base frame on which the engine and the alternator shall be mounted to isolate the vibration from passing on to the common base frame or the foundation of the D.G. Set.</p>	
17.	<p>PERIPHERALS</p> <p><b>BATTERY AND BATTERY CHARGER:</b></p> <p>Two nos. 12/24V batteries or as required for starting, complete with all leads, terminals and stand shall be provided. Each battery shall have sufficient capacity to give min. 6 nos. successive starting impulse to the diesel engine.</p> <p>Each battery shall have its own charger unit. The battery charger shall be complete with transfer, suitable rating (415 V, 3 Ph., 50 Hz. / 230V, 1 Ph., 50Hz) rectifier circuit, charge rate selector switch for "trickle" / boost' charge, D.C. ammeter &amp; voltmeter, annunciation panel for batter charge indication/ loading/ failure.</p> <p>The charger shall float and Boost Charge the battery as per recommendation of manufacturer of battery. The charger shall be able to charge a fully discharged battery to a state of full charge in 8 Hrs. with 25% spare capacity.</p>	

	<p>Manual control for coarse and fine voltage variation shall be provided. Float charger shall have built-in load limiting feature.</p> <p>Ripple shall not be more than 1% (r m s) to get smooth DC voltage.</p> <p>Charger shall be provided with out-put Voltmeter &amp; Ammeter.</p> <p>Changeover scheme for selecting battery and battery charger by changeover switch should be provided.</p>	
18.	<p><b>CONTROL AND INSTRUMENTATION:</b></p> <p>Each D.G. Set shall be provided with suitable instruments, interlock and protection arrangement, suitable annunciation and indications etc. for proper start up, control, monitoring and safe operation of the unit. One local AMF control panel along with each D.C. set shall be provided by the Supplier to accommodate these instruments, protective relays, indication lamps etc. The AMF Panel shall have IP-52 degree of Protection as per IS: 12063.</p> <p>The D.G. sets shall be provided with automatic start facility to make it possible to take full load within 30 seconds of Power Supply failure.</p> <p>Testing facility for automatic operation of D.G. Set shall be provided in AMF panel.</p> <p>A three attempt starting facility using two impulse timers and summation timer for engine shall be provided and if the voltage fails to develop within 40 sec., from receiving the first impulse, the set shall block and alarm to this effect shall be provided in the AMF panel.</p> <p>Following instruments shall be provided with Diesel Engine.</p> <ol style="list-style-type: none"> <li>a. Lube oil pressure gauge.</li> <li>b. Water temperature thermometers.</li> <li>c. Engine tachometer/HR</li> <li>d. Any other instruments necessary for DG set operation shall be provided.</li> </ol> <p>DG Set in N+1 configuration shall be capable of being started/ stopped manually from remote as well as local. (Remote START/STOP push button shall be provided in 415V ACDB). However, interlock shall be provided to prevent shutting down operation as long as D.G. Circuit breaker is closed.</p> <p>The diesel generator shall commence a shutdown sequence whenever any of the following conditions appear in the system.</p> <ol style="list-style-type: none"> <li>a) Over-speed</li> <li>b) Over load</li> <li>c) High temperature of engine and cooling water.</li> <li>d) High temperature inside enclosure.</li> <li>e) Low lube oil pressure</li> <li>f) Generator differential protection.</li> <li>g) Short circuit protection.</li> <li>h) Under voltage</li> </ol>	

	<p>i) Over voltage.</p> <p>Following indication lamps for purposes mentioned as under shall be provided in AMF panel.</p> <p>Pilot indicating lamp for the following:</p> <ul style="list-style-type: none"> <li>a) Mains ON</li> <li>b) Alternator ON</li> <li>c) Charger ON/OFF</li> <li>d) Breaker ON/OFF</li> <li>e) Main LT Supply ON/OFF</li> </ul> <p>Thermostatically controlled space heaters and cubicle illumination operated by Door Switch shall be provided in AMF panel. Necessary isolating switches and fuses shall also be provided.</p> <p>AMF panel shall have facility for adjustment of speed and voltage including fine adjustments in remote as well as in local mode.</p>	
19.	<p><b>D.G. SET Enclosure</b> <b>General requirement</b></p> <p>Diesel engine, alternator, AMF panel, Batteries and Chargers shall be installed outdoor in a suitable weather-proof enclosure which shall be provided for protection from rain, sun, dust etc. Further, in addition to the weather proofing, acoustic enclosures shall also be provided such that the noise level of acoustic enclosure DG set shall meet the requirement of MOEF. The diesel generator sets should also conform to Environment (Protection) Rules 1986 as amended. An exhaust fan with louvers shall be installed in the enclosure for temperature control inside the enclosure. The enclosure shall allow sufficient ventilation to the enclosed D.G. Set so that the body temperature is limited to 58°C during maximum ambient temperature of 50°C &amp; full load. The air flow of the exhaust fan shall be from inside to the outside the shelter. The exhaust fan shall be powered from the DG set supply output so that it starts with the starting of the DG set and stops with the stopping of the DG set. The enclosure shall have suitable viewing glass to view the local parameters on the engine. Fresh air intake for the Engine shall be available abundantly; without making the Engine to gasp for air intake. A chicken mess shall be provided for air inlet at suitable location in the enclosure.</p> <p>The Enclosure shall be designed and the layout of the equipment in side it shall be such that there is easy access to all the serviceable parts. Engine and Alternator used inside the Enclosure shall carry their manufacturer's Warranty for their respective Models and this shall not degrade their performance.</p> <p>Exhaust from the Engine shall be let off through silencer arrangement to keep the noise level within desired limits. Interconnection between silencer and engine should be through stainless steel pipe.</p> <p>All the Controls for Operation of the D.G. Set shall be easily accessible. There should be provision for emergency shutdown from outside the enclosure.</p>	



	Arrangement shall be made for housing the Battery set in a tray inside the Enclosure.	
20.	<p><b>Constructional Features:</b></p> <p>The enclosure shall be fabricated from at least 14 Gauge CRCA sheet steel and of Modular construction for easy assembling and dismantling. The sheet metal components shall be pre-treated by Seven Tank Process and Powder coated (PURO Polyester based) both-inside and outside for long life. The hard-ware and accessories shall be high tensile grade. Enclosure shall be given a lasting anti-rust treatment and finished with pleasant environment friendly paint. All the hardware and fixtures shall be rust proof and able to withstand the weather conditions.</p> <p>Doors shall be large sized for easy access and provided with long lasting gasket to make the enclosure sound proof. All the door handles shall be lockable type. There should be provision for separate additional locking facility with the normal door lock.</p> <p>The Enclosure shall be provided with anti-vibration pads (suitable for the loads and vibration they are required to carry) with minimum vibration transmitted to the surface the set is resting on.</p> <p>High quality Acoustic foam/rock wool of required density and thickness shall be used with fire retardant thermo-setting resin to make the Enclosure sound proof.</p> <p>Provision for Neutral / Body Earthing at two (2) points.</p> <p>Points shall be available at two side of the enclosure with the help of flexible copper wires from alternator neutral, and electrical panel body respectively. The earthing point shall be isolated through insulator mounted on enclosure.</p>	
21.	<p><b>INTALLATION ARRANGEMENT</b></p> <p>DG set enclosed in enclosure shall be installed on Concrete Pedestal 300 mm above FGL. The construction of required platform with GI angle iron on cornice of platform as required according to the weight of DG set is in the scope of bidder.</p>	
22.	<p><b>DOCUMENTS</b></p> <p>Following drawings and data sheet shall be submitted for approval during implementation phase:</p> <ul style="list-style-type: none"> <li>(i) DG Set test certificate</li> <li>(ii) GA drawing of DG set</li> <li>(iii) Layout of DG set in the enclosure along with sections.</li> <li>(iv) GA and SLD of AMF panel.</li> <li>(v) Arrangement of inclined roof and pedestal.</li> <li>(vi) The detailed construction drawing of DG set Platform</li> </ul> <p>The DG Set shall be supplied with</p>	

	(i) DG Set test certificate (ii) Engine Operation & maintenance Manual. (iii) Engine PARTS Catalogue. (iv) Alternator Operation, maintenance & Spare parts Manual. (v) Alternator test certificate.	
23.	<b>TESTS:</b> The Diesel generator sets shall be tested for routing and acceptance tests as per the relevant IS/IEC standards. The type test report for diesel engine and alternator are required to be submitted as per relevant standard shall be submitted for purchaser's approval.	
24.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	
25.	<b>Preferred Engine make:</b> Cummins /Kirloskar /Volvo <b>Preferred Alternator make:</b> Stamford/ Kirloskar/Parkinson	

**ITEM No 31 : Power Panel (Main Panel, APFC Panel,AMF Panel, Sub Panel )**

S. No.	Description of Requirement	Compliance (Yes/No)
1.	<p>The specification of Main panel, APFC Panel, AMF Panel, Sub Panel design and fabrication is given as follows:</p> <ul style="list-style-type: none"> <li>The Panels shall be of compartmentalize design so that circuit arc / flash products do not create secondary faults and be fabricated out of high quality CRCA sheet, suitable for indoor installation having dead front operated and floor mounting type.</li> <li>All CRCA sheet steel used in the construction of Panels shall be 2 mm. thick and shall be folded and braced as necessary to provide a rigid support for all components. Joints of any kind in sheet steel shall be seam welded, all welding slag grounded off and welding pits wiped smooth with plumber metal.</li> <li>The Panels shall be totally enclosed, completely dust and vermin proof and degree of protection being not less than IP: 54 to IS: 2147. Gaskets between all adjacent units and beneath all covers shall be provided to render the joints dust proof. All doors and covers shall be fully gasketed with foam rubber and /or rubber strips and shall be lockable.</li> <li>All panels and covers shall be properly fitted and secured with the frame and holds in the panel correctly positioned. Fixing screws shall enter into holes, taped into an adequate thickness of metal or provided with bolts and nuts. Self-threading screws shall not be used in the construction of Panels.</li> <li>A base channel of 75 mm. x 50 mm. x 6 mm. thick shall be provided at the bottom.</li> <li>Panels shall be preferably arranged in multi-tier formation. The size of the Panels shall be designed in such a way that the internal space is sufficient for hot air movement. If necessary, openings shall be provided for natural ventilation, but the said openings shall be screened with fine weld mesh. The entire electrical component shall be de-rated for 50°C.</li> </ul>	

	<ul style="list-style-type: none"> <li>• The Panels shall be provided with removable sheet steel plates at top and bottom to drill holes for cable / conduit entry at site.</li> <li>• The Panels shall be designed to facilitate easy inspection, maintenance and repair.</li> <li>• The Panels shall be sufficiently rigid to support the equipment without distortion under normal and under short circuit condition. They shall be suitably braced for short circuit duty.</li> </ul>	
2.	<p><b>Circuit Compartments</b></p> <ul style="list-style-type: none"> <li>• Each MCCB shall be housed in separate compartments and shall be enclosed on all sides. Sheet steel hinged lockable door shall be duty interlocked with the unit in `ON' and `OFF' position.</li> <li>• All instruments and indicating lamp shall be mounted on the compartment door. Sheet steel barriers shall be provided between the tiers in a vertical section.</li> </ul>	
3.	<p><b>Bus Bars</b></p> <ul style="list-style-type: none"> <li>• The busbar shall be air insulated and made of high quality, high conductivity, high strength Aluminium.</li> <li>• The busbar shall be of 3 phases and neutral system with separate neutral and earth bar. The size of neutral busbar in all main panels or lighting panels and feeders for panel shall be equal to phase busbar.</li> <li>• The busbar and interconnection between busbars and various components shall be of high conductivity Aluminium.</li> <li>• The busbar shall be of rectangular cross-section designed to withstand full load current for phase busbars and half rated current for neutral busbars in case of MCC panels only and shall be extensible on either side.</li> <li>• The busbar size shall be as per the rating of the panel. The busbar shall have uniform cross-section throughout the length.</li> <li>• The busbars and interconnections shall be insulated with epoxy-coated busbar. The busbar shall be supported on bus insulators of non flammable type with high creepage and high anti tracking property and non-hydroscopic SMC / DMC insulated supports at sufficiently close intervals to prevent busbars sag and shall effectively withstand electromagnetic stresses in the event of short circuit.</li> <li>• The busbar shall be housed in a separate compartment. The busbar shall be isolated with 3-mm. thick bakelite sheet to avoid any accidental contact. The busbar shall be arranged such that minimum clearance between the busbar are maintained as below:             <ul style="list-style-type: none"> <li>○ Between phases : 25 mm. minimum</li> <li>○ Between phases and neutral: 25 mm.</li> <li>○ Between phases and earth: 25 mm.</li> <li>○ Between neutral and earth : 20 mm. minimum</li> </ul> </li> <li>• All busbar connections shall be done by drilling holes in busbars and connecting by chromium plated or tinned plated brass bolts and nuts.</li> <li>• Additional cross-section of busbar shall be provided in all Panels to cover up the holes drilled in the busbar. Spring and flat washers shall be used for tightening the bolts.</li> </ul>	

	<ul style="list-style-type: none"> <li>All connections between busbars and circuit breakers / switches and cable terminals shall be through aluminium strips of proper size to carry full rated current. These strips shall be insulated with insulating taps.</li> <li>Panel to panel entry of bus bar shall be effectively sealed by electrical and thermal insulation barriers so that products of flashover do not travel from one panel to another panel creating multiple faults.</li> <li>Busbar calculated on 50 deg. C. ambient temp. and 85 deg. C. for continuous and short time rating. Busbar surrounded air temp. shall be considered 70 deg. C. for busbar calculation</li> </ul> <p>All joint shall have non-flammable insulation shrouds for secondary insulation purpose</p>	
4.	<p><b>Electrical Power and Control Wiring Connection</b></p> <ul style="list-style-type: none"> <li>Terminal for both incoming and outgoing cable connections shall be suitable for 1100 V grade, aluminium / copper conductor XLPE insulated and PVC heathed, armored cable and shall be suitable for connections of solder less sockets for the cable size as per the feeder capacity.</li> <li>Power connections for incoming feeders of the main Panels shall be suitablefor 1100 V grade aluminium conductor (XLPE) cables.</li> <li>Both control and power wiring shall be brought out in cable alley for ease of external connections, operation and maintenance.</li> <li>Both control and power terminals shall be properly shrouded.</li> <li>10% spare terminals shall be provided on each terminal block. Sufficient terminals shall be provided on each terminal block, so that not more than one outgoing wire is connected to per terminal.</li> <li>Terminal strips for power and control shall preferably be separated from each other by suitable barriers of enclosures.</li> <li>Wiring inside the modules for power, control, protection and instruments etc. shall be done with use of 660 / 1100 V grade, FRLS insulated copper conductor cables conforming to IS. For current transformer circuits, 2.5 sq.mm. copper conductor wire shall be used.</li> <li>Other control wiring shall be done with 1.5 sq.mm. copper conductor wires.</li> <li>Wires for connections to the door shall be flexible. All conductors shall be crimped with solder less sockets at the ends before connections are made to the terminals.</li> <li>Control power supply to modules through the control transformer Control power wiring shall have MCB's, (HRC fuse type) for circuit protection.</li> <li>All indicating lamps shall be protected by MCB's.</li> <li>Particular care shall be taken to ensure that the layout of wiring is neat and orderly. Identification ferrules shall be filled to all the wire termination for ease of identification and to facilitate checking and testing</li> </ul>	
5.	<p><b>Terminals</b></p> <ul style="list-style-type: none"> <li>The outgoing terminals and neutral link shall be brought out to a cable alley suitably located and accessible from the panel front.</li> </ul>	

	<ul style="list-style-type: none"> <li>The current transformers for instruments metering shall be mounted on the disconnecting type terminal blocks.</li> <li>No direct connection of incoming or outgoing cables to internal components of the distribution board is permitted; only one conductor may be connected in one terminal</li> </ul>	
6.	<p><b>Cable Components:</b></p> <ul style="list-style-type: none"> <li>Cable compartments of minimum 300 mm size shall be provided in the Panels for easy termination of all incoming and outgoing cables entering from bottom or top.</li> <li>Adequate supports shall be provided in the cable compartments to support cables.</li> <li>All outgoing and incoming feeder terminals shall be brought out to terminals blocks in the cable compartment.</li> </ul>	
7.	<p><b>Labels:</b></p> <ul style="list-style-type: none"> <li>Engraved PVC labels shall be provided on all incoming and outgoing feeders.</li> <li>Single line circuit diagram showing the arrangements of circuit inside the distribution board shall be pasted on inside of the panel door and covered with transparent laminated plastic sheet.</li> </ul>	
8.	<p><b>Name Plates:</b></p> <ul style="list-style-type: none"> <li>A nameplate with the Panels designation in bold letters shall be fixed at top of the central panel.</li> <li>A separate nameplate giving feeder details shall be provided for each feeder module door.</li> <li>Inside the feeder compartments, the electrical components, equipments, accessories like switchgear, control gear, lamps, relays etc. shall suitably be identified by providing stickers.</li> <li>Engraved nameplates shall preferably be of 3 ply, (Red-White-Red or Black-White-Black) lamicold sheet. However, black engraved perplex sheet name plates shall also be acceptable. Engraving shall be done with square groove cutters.</li> <li>Nameplate shall be fastened by counter sund screws and not by adhesives</li> </ul>	
9.	<p><b>Danger Notice Plates</b></p> <ul style="list-style-type: none"> <li>The danger notice plate shall be affixed in a permanent manner on operating side of the Panels.</li> <li>The danger notice plate shall indicate danger notice both in Hindi and English and with a sign of skull and bones.</li> <li>The danger notice plates, in general, meet the requirements of local inspecting authorities.</li> <li>Overall dimensions of the danger notice plate shall be 200 mm. wide x 150 mm. high.</li> <li>The danger notice plate shall be made from minimum 1.6 mm. thick mild steel sheet and after due pre-treatment to the plate, the same shall be painted white with vitreous enamel paint on both front and rear surface of the plate.</li> </ul>	

	<ul style="list-style-type: none"> <li>The letters, the figures, the conventional skull and bones etc. shall be positioned on plate as per recommendation of IS : 2551-1982.</li> <li>The said letters, the figures and the sign of skull and bones shall be painted in signal red colour as per IS : 5-1978.</li> <li>The danger plate shall have rounded corners. Location of fixing holes for the plate shall be decided to suit design of the Panels.</li> <li>The danger notice plate, if possible, it should be of ISI certification mark</li> </ul>	
10.	<p><b>Moulded Case Circuit breakers</b></p> <ul style="list-style-type: none"> <li>The moulded case circuit breaker (MCCB) shall be air break type and having quick make - quick break with trip free operating mechanism.</li> <li>Housing of the MCCB shall be of heat resistant and flame retardant insulating material.</li> <li>Operating handle of the MCCB shall be in front and clearly indicate ON/OFF/TRIP positions.</li> <li>The electrical contact of the circuit breaker shall be of high conducting non deteriorating silver alloy contacts.</li> <li>The MCCB shall be provided microprocessor based overload and short circuit protection device.</li> <li>All the releases shall operate on common trip busbar so that in case of operation of any one of the releases in any of the three phases, it will cut off all the three phases and thereby single phasing of the system is avoided.</li> <li>The MCCB shall provide two sets of extra auxiliary contacts with connections for additional controls at future date.</li> </ul>	
11.	<p><b>Contactors:</b></p> <ul style="list-style-type: none"> <li>The contactors shall meet with the requirements of IS : 2959 and BS : 7755.</li> <li>The contactors shall have minimum making and breaking capacity in accordance with utilization category AC3 and shall be suitable for minimum Class II intermittent duty.</li> <li>If the contactor forms part of a distribution board then a separate enclosure is not required, but the installation of the contactor shall be such that it is not possible to make an accidental contact with live parts</li> </ul>	
12.	<p><b>Indicating Lamps</b></p> <ul style="list-style-type: none"> <li>Lamps assembly shall be screw type with built in resistor having non-fading colour lens. LED type lamps are required.</li> <li>Wiring for Remote ON, OFF, TRIP indicating lamp is required.</li> <li>Colour shade for the indicating lamps shall be as below : <ul style="list-style-type: none"> <li>ON indicating lamp : Red</li> <li>OFF indicating lamp : Green</li> <li>TRIP indicating lamp : Amber</li> <li>PHASE indicating lamp : Red, Yellow, Blue</li> <li>TRIP circuit healthy lamp : Milky</li> </ul> </li> </ul>	
13.	<p><b>The details of incoming and outgoing are as follows:</b></p>	

14.	<p><b>A. Main Panel (Warranty: 5 Years Comprehensive Bidder/OEM Warranty)</b> Main Panel each at CCC and Atal seva kendra-data center comprises of 1 Nos. 400 Amp. 4 Pole auto change over from vidyut power supplies and from 2 Nos. 125 KVA DG set working on N+1 Mode with AMF. 1 Nos 250 Amp Outgoing MCCB for APFC, 3 Nos outgoing MCCB of 125 Amp and 2 Nos. outgoing MCCB of 100 Amp. All MCCB's should be adjustable electronic type, 25 KA ratings of either Siemens/Schneider/Legrand make. The Multi-function metering section and LED light to be provided on incomer. The SLD Drawing &amp; GA drawing to be get approved before fabrication. The main bus bars and outgoing bus bars should be rated 1.5 times of incomer and outgoing size.</p>	
15.	<p><b>B. APFC Panel (Warranty: 5 Years Comprehensive Bidder/OEM Warranty)</b> The APFC Panel each at CCC and Atal seva kendra-data center should be of 100 KVAR, each steps of 1,2,2,5,10,10,10,20,20,20 KVAR. The APFC Panel relay should be of 12-14 steps suitable for working with unbalanced loads. All capacitors, capacitor duty contractor, MCCB, MCB, selector switches, meters and other switch gear components should be of preferred make: Siemens/Schneider/Legrand. The connection between Main panel and APFC panel should be made with 185 Sqmm. Cable along with required CT's and Control cable.</p>	
16.	<p><b>C. Power Cables (Warranty: 5 Years Comprehensive Bidder/OEM Warranty)</b> The Contractor should quote the lumsum rates of 3x3.5 core aluminium power cable as required at site for CCC and Atal seva kendra-data center including the cost of power cabling and sub cabling with cable tray/ on surface/underground as required with lugs and glands.</p> <ol style="list-style-type: none"> <li>a. From transformer to main panel (240 sqmm)</li> <li>b. DG Set to main panel (185 sqmm)</li> <li>c. Main Panel to APFC Panel (150 sqmm)</li> <li>d. Main panel from 125 Amp MCCB outgoing to Load DB/Sub Panel (70sqmm)</li> <li>e. Main panel from 100 Amp MCCB outgoing to Load DB/Sub Panel (50sqmm)</li> <li>f. Other cables of size 35/25/16/10 sqmm as required according to load as per drawing and design approved by the purchaser/department Preferred make: Polycab/Havells/Finolex</li> </ol>	
17.	<p><b>D. Earthing (Warranty: 5 Years Comprehensive Bidder/OEM Warranty)</b> Copper plate earthing should be carried out as per IS specifications and relevant code as per details given below</p> <ol style="list-style-type: none"> <li>I. Copper plate earthing of size 600x600 sqmm with 25x3 sqmm Cu strip             <ol style="list-style-type: none"> <li>i. 2 Nos for Main Panel</li> <li>ii. 4 Nos for each DG set totalling to 8 Nos at each place i.e. CCC and Atal Seva Kendra</li> <li>iii. 2 Nos for APFC panel</li> <li>iv. 2 Nos for each AMF panel/ DG Synchronization panel</li> <li>v. 2 Nos for 40 KVA UPS</li> <li>vi. 2 Nos for 50 KVA UPS</li> <li>vii. 2 Nos for racks</li> </ol> </li> <li>II. Copper plate earthing of size 300x300 sqmm with 8 sqmm Cu wire</li> </ol>	

	i. 2 Nos for each Sub Panel/ DB	
18.	<p><b>E. VTPN/ETPN DB's</b>(Warranty: 5 Years Comprehensive Bidder/OEM Warranty)</p> <p>As per the site requirement and drawing approved by purchaser/ department for CCC and Atal seva kendra-data center, the contractor should install VTPN/ETPN DB's as required with 1Nos incoming MCCB and number of outgoing MCB's of rating as per load required. All material of DB/ MCCB/MCB should be of preferred make: Siemens/Schneider/Legrand. The contractor should do the required cabling as mentioned above</p>	
19.	<p><b>F. Electrical lighting fixtures</b> (Warranty: 5 Years Comprehensive Bidder/OEM Warranty)</p> <p>The contractor should submit drawing for LED panel electrical lighting fixtures of surface / recess type as required with required 500 lux level for CCC and Atal seva kendra-data center. The model of fixtures will be selected by RISL. Preferred make: Philips/Wipro/Trilux</p>	
20.	<p><b>G. Electrical wiring , Modular accessories and conduits</b> (Warranty: 5 Years Comprehensive Bidder/OEM Warranty)</p> <p>The contractor should carry out wiring with conduiting , wiring and modular accessories as mentioned in BOQ at CCC and Atal seva kendra-data center. The conduits should be of preferred make: Siemens/Schneider/Legrand AKG/ Precision / BEC. The wires should be of preferred make: Finolex/ RR / Polycab/ National make. The modular accessories should be of preferred make: Schneider/ Legrand/ Philips/ MK</p>	

**ITEM No 32 : Comfort Air Conditioning for CCC and Atal seva kendra-data center**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Type	<p>Cassette/high wall Type Split Type AC as per BoQ of suitable nominal cooling capacity operating on greener / environmental friendly refrigerant such as R407C/R410A best suitable to take care of environmental norms</p> <p>All indoor units shall be connected to VRV/VRF based outdoor units. Appropriate redundancy shall be maintained for rooms running 24 x 7.</p>	
4.	Rating	Operation on 230 V, 50 Hz, single phase, or 415 V, 50 Hz, three phase as required	
5.	Remote	Cordless remote with centralised monitoring & control system	
6.	Capability	<p>Capable of performing</p> <ul style="list-style-type: none"> <li>- Cooling</li> <li>- Air Circulating</li> <li>- Filtering</li> </ul>	



7.		The split unit's shall be connected using Sequential controller working in periodic operations as per requirement in the area required	
8.	Preferred Make	Daikin/ Toshiba/ O General/ Mitsubishi Heavy/Hitachi	
9.	Warranty	5 Years Comprehensive OEM Warranty	

**ITEM No 33: CAT 6A Cable**

S. No	Specifications	Compliance (Yes/No)
1.	Make	
2.	The cable should be made available in a we-tote box, which protects the environment	
3.	The cable should have 4 pair construction with round sheath and proper construction to avoid the Alien crosstalk	
4.	The cable should be round in shape for ease of installation	
5.	In the Channel, the cable length should be as low as 3 meter and 5 meter while meeting the bandwidth requirements	
6.	The cable should be available in Non-Plenum/Plenum/Low smoke Zero halogen versions to meet the installation and safety requirements	
7.	Electrical performance guaranteed to meet or exceed the channel specifications of Amendment 1 to ISO/IEC 1180:2001 Class EA, and ANSI/TIA-568-C.2 Category 6A up to 500 MHz when used as part of a CAT 6 A U/UTP Channel installations	
8.	The cable, patch cords and connecting hardware shall be UTP components that do not include internal or external shields, or drain wires	

**ITEM No 34 : CAT 6A Information Outlet**

S. No	Specifications	Compliance (Yes/No)
1.	Make:	
2.	Listing: UL® and cUL listed	
3.	Electrical performance guaranteed to meet or exceed the channel specifications of Amendment 1 to ISO/IEC 11801: 2002 Class EA and ANSI/TIA-568-C.2 Category 6A when used as part of a CAT 6 A UTP Channel in registered installations	
4.	Power on Ethernet: Shall support minimum 1.5A current to support PoE and PoE+ applications	
5.	Can also be mounted either at 90 degrees (straight) or 45 degrees (angled) in the faceplate	
6.	Should be a non-keystone product	
7.	Universal design and label supports both T568 A & B wiring	
8.	Connector: IDC connector terminations on rear of base allow quick and easy installation of 22 to 24 AWG cable	

9.	Speed: Can support network line speeds up to at least 10 gigabits per second	
10.	When used with the same manufacturer cable, the channel should be supporting a short channel of 5 meters	
11.	Snaps into standard faceplates, surface-mount boxes, consolidation point boxes, and Modular Panels	

**ITEM No 35 : CAT 6A Modular Patch Cords**

S. No	Specifications	Compliance (Yes/No)
1.	Make:	
2.	Listing :ETL/cETL/UL listed	
3.	Electrical performance guaranteed to meet or exceed the channel specifications of Amendment 1 to ISO/IEC 11 801:2002 Class EA and ANSI/TIA-568-C.2 Category 6A up to 500 MHz when used as part of a CAT 6 A UTP Channel in registered installations	
4.	Speed : Can support network line speeds up to at least 10 gigabits per second	
5.	Shape: Patch Cord should be round in shape	
6.	Should be available in Non-Plenum, LSZH and Plenum versions	
7.	Should be available as Solid cordage	
8.	When used with the same manufacturer cable, the channel should be supporting a short channel of 5 meters	
9.	Should be available at various lengths and as low as 1 meter	

**ITEM No 36 : CAT 6A – 24 Port Patch Panel**

S. No	Specifications	Compliance (Yes/No)
1.	Make:	
2.	The patch panel shall have electrical performance guaranteed to meet or exceed TIA/EIA 568-C.2 Category 6A and ISO/IEC Class EA specifications	
3.	The copper panels shall be upgradeable to intelligence in the field at a later stage with the Intelligent Upgrade Kit. The upgrade shall be performed without network disruptions, without the removal of patch cords	
4.	Solution shall offer customers the option to deploy intelligence immediately or in phases, according to needs and budgetary requirements	
5.	The Panel shall be available in modular as well in the loaded versions	
6.	The Modular panel shall have granularity of single outlets as well a group of 6 outlets	
7.	The Modular panel shall also have a built-in Cable manager in the front	
8.	The panel shall be available in 24-port and 48-port configurations with universal A/B labeling and 110 connector terminations on rear of panel allowing for quick and easy installation of 22 to 24 AWG cable	

9.	The panel shall be equipped with a removable rear mounted cable management bar loaded with the cable organizers, which would allow to group 6 cables	
10.	The panel shall be UL listed, UL-C certified and ACA approved	
11.	The Panel Should be RoHS compliant	
12.	Architectural design and flexibility - supports 5 meter cables in 3 and 4 connector channels, 3 meter cables in 2 connector channels and cross connect cords down to 1 meter	
13.	Shall Support the deployment of pre-terminated copper solutions	
14.	Should be available in Straight and Angled constructions	
15.	Should be available in a elegant design where even the mounting screws are concealed	
16.	There should be no tools required when installing intelligent upgrade kits	
17.	The termination of the cables at the rear should be done through the managers for fast, secured and accurate connectivity	
18.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	

Preferred Make: Systimax (CommScope), Simon/ Nexan/ Panduit/ Legrand/ Schneider

**ITEM No 37 : Optical Fiber –Single Mode (For connectivity between CCC,data center,Dial 100 Control Room,ITMS Room and Forensic Investigation Room)**

S. No	Specifications	Compliance (Yes/No)
1.	Make:	
2.	The fiber shall minimum 6 cores.	
3.	The OS2 Single-mode Fiber SCS shall comply with the following standards <ul style="list-style-type: none"> <li>• ISO/IEC 11801:2010</li> <li>• EN 50173-1:2011</li> <li>• EN 50173-2:2010</li> <li>• ANSI/TIA-568-C</li> <li>• IEC 60603-7-4</li> <li>• IEEE 802.3 applications as outlined in section (iii)</li> <li>• Local/National Codes and Regulations</li> </ul>	
4.	The OS2 optical fiber glass shall be manufactured from ultra-pure synthetic silica glass. Single-mode fibers manufactured from natural quartz will not be accepted.	

5.	<p>The OS2 Single-mode Fiber SCS shall be capable of supporting, at minimum, the following IEEE Ethernet applications:</p> <table border="1" data-bbox="496 241 1102 779"> <tr> <td>100M</td> <td>100BASE-LX10</td> </tr> <tr> <td rowspan="7">1G</td> <td>1000BASE-LH</td> </tr> <tr> <td>1000BASE-BX10</td> </tr> <tr> <td>1000BASE-LX10</td> </tr> <tr> <td>1000BASE-PX10-D</td> </tr> <tr> <td>1000BASE-PX10-U</td> </tr> <tr> <td>1000BASE-PX20-D</td> </tr> <tr> <td>1000BASE-ZX</td> </tr> <tr> <td rowspan="3">10G</td> <td>10GBASE-LR</td> </tr> <tr> <td>10BASE-LX4</td> </tr> <tr> <td>10GBASE-ER</td> </tr> <tr> <td>40G</td> <td>40GBASE-LR4</td> </tr> <tr> <td>100G</td> <td>100GBASE-LR4</td> </tr> </table>	100M	100BASE-LX10	1G	1000BASE-LH	1000BASE-BX10	1000BASE-LX10	1000BASE-PX10-D	1000BASE-PX10-U	1000BASE-PX20-D	1000BASE-ZX	10G	10GBASE-LR	10BASE-LX4	10GBASE-ER	40G	40GBASE-LR4	100G	100GBASE-LR4	
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6.	<p>The OS2 single-mode Fiber SCS shall be capable of supporting the following Fiber Channel Applications Standards, per Technical Committee 11 of INCITS:</p> <table border="1" data-bbox="703 882 895 1106"> <tr><td>1GFC</td></tr> <tr><td>2GFC</td></tr> <tr><td>4GFC</td></tr> <tr><td>8GFC</td></tr> <tr><td>10GFC</td></tr> <tr><td>16GFC</td></tr> </table>	1GFC	2GFC	4GFC	8GFC	10GFC	16GFC													
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7.	<p>The OS2 single-mode fibers shall fully meet or exceed the specifications in:</p> <ul style="list-style-type: none"> <li>• EN 50173-1:2011</li> <li>• ISO/IEC 11801:2010</li> <li>• IEC/EN 60793-2-50 (b1.3 fiber)</li> <li>• ANSI/TIA-492CAAB</li> <li>• ITU-T G.652.D</li> </ul>																			
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Heat Aging, 185°F (85°C)	≤ 0.05dB																													

**ITEM No 38: Antivirus Solution**

S. No	Description	Compliance (Yes/No)
1.	Make:	
2.	Model/ Product Name and Version	
3.	Should restrict e-mail bound Virus attacks in the real time without compromising the performance of the system	

4.	Should be capable of providing multiple layer of defense	
5.	Should have installation support on gateway / Mailing server.	
6.	Should be capable of detecting and cleaning virus infected attachments as well	
7.	Should support scanning for ZIP, RAR compressed files, and TAR archive files	
8.	Should support online update, where by most product upgrades and patches can be performed without bringing messaging server off-line.	
9.	Should use multiple scan engines during the scanning process	
10.	Should support in-memory scanning as to minimum disk I/O	
11.	Should support Multi-threaded scanning	
12.	Should support scanning of a single mailbox or a one off scan.	
13.	Should support scanning by file type for attachments	
14.	Should support scanning of nested compressed files	
15.	Should be capable of specifying the logic with which scan engines are applied; such as the most recently updated scan engine should scan all emails etc	
16.	Should support heuristic scanning to allow rule-based detection of unknown viruses	
17.	Updates to the scan engines should be automated and should not require manual intervention	
18.	Updates should not cause queuing or rejection of email	
19.	Updates should be capable of being rolled back in case required	
20.	Should support content filtering based on sender or domain filtering	
21.	Should provide content filtering for message body and subject line, blocking messages that contain keywords for inappropriate content	
22.	File filtering should be supported by the proposed solution; file filtering should be based on true file type.	
23.	Common solution for anti-spy ware and anti-virus infections; and anti-virus and anti-spy ware solution should have a common web based management console	
24.	Should support various types of reporting formats such as CSV, HTML and text files	
25.	Should be capable of being managed by a central management station	
26.	Should provide control policy and data policy management for Mobile Data Terminals	
27.	Should support client lockdown feature for preventing desktop/Mobile Data Terminal users from changing real-time settings	
28.	Should support insertion of disclaimers to message bodies	
29.	Product shall be provided with all the required licenses, software as applicable to meet all the above mentioned specification and hence the proposed solution.	
30.	The bidder has to account for the following client antivirus software : 1. for all servers being installed in the SDC 2. for all other computing devices such as desktops, laptops , Mobile Data Terminals in all divisions, districts and other location where CCC procured computing devices should cover for AV solution.	
31.	The bidder would ensure client antivirus subscription valid for the period of project, therefore, no. of client antivirus software/solution, there subscription should work for the project period without any expiration of services.	

32.	The antivirus solution should be available on cross platform i.e. Windows, RHEL etc. available in the CCC and Mobile data terminal on Android	
33.	Warranty/Technical Support: 5 Years Comprehensive OEM Warranty with necessary updates, upgrades and patches	
34.	5 years comprehensive OEM warranty	

**ITEM No 39 : Video Analytics-I**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model/Product Name and Version		
3.	Features	<p>It should provide an integrated video analytics System that provides functionalities like:</p> <ul style="list-style-type: none"> <li>• Loitering</li> <li>• Unidentified object detection #</li> <li>• Motion / intrusion detection #</li> <li>• Camera Vandalism and tamper detection #</li> <li>• Virtual Fence / Tress Passing / Tripwire #</li> <li>• People / Mass movement #</li> <li>• Attribute based search</li> </ul> <p>The real-alerts generated by this video analytics system should automatically be listed in the Command &amp; Control Center application's list of events &amp; incidents.</p>	
4.		Should be able to pinpoint an event in recorded video and retrieve the relevant video segment from stored video	
5.		Should be an open extensible framework for event based surveillance	
6.		Should provide Centralized monitoring of real- time alerts across geographic locations	
7.		<p>Should provide following functionalities for alerts</p> <ul style="list-style-type: none"> <li>• Setting up and configuration of alerts by authorized user</li> <li>• Storing and retrieving alert definitions for reconfiguration</li> <li>• Annotate and archival of alerts</li> <li>• Searching of alerts based on string and comments entered by user on alerts</li> <li>• Setting up of prority level for alerts</li> <li>• Automatic play of urgent priority alerts</li> </ul>	
8.		Should be Scalable & reliable system that Seamlessly integrates with existing ONVIF compliant CCTV infrastructure	
9.		Should provide Real-time event analysis engine that is capable of supporting a variety of video/image analysis technologies and should provide:	

		<ul style="list-style-type: none"> <li>• Standard Plug-in Interfaces</li> <li>• Extensible Meta-Data Interfaces</li> <li>• Real-time Alert Interfaces</li> </ul>	
10.	Warranty	5 years comprehensive Bidder/OEM	

**ITEM No 40: Video Analytics-II**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model/Product Name and Version		
3.	Features	People Search: Searching person based on single and multiple attributes	
4.		Should be able to pinpoint an event in recorded video and retrieve the relevant video segment from stored video	
5.		Should be an open extensible framework for event based surveillance	
6.		Should provide Centralized monitoring of real- time alerts across geographic locations	
7.		Should provide following functionalities for alerts <ul style="list-style-type: none"> <li>• Setting up and configuration of alerts by authorized user</li> <li>• Storing and retrieving alert definitions for reconfiguration</li> <li>• Annotate and archival of alerts</li> <li>• Searching of alerts based on string and comments entered by user on alerts</li> <li>• Setting up of priority level for alerts</li> <li>• Automatic play of urgent priority alerts</li> </ul>	
8.		Should be Scalable & reliable system that Seamlessly integrates with existing ONVIF compliant CCTV infrastructure	
9.		Should provide Real-time event analysis engine that is capable of supporting a variety of video/image analysis technologies and should provide: <ul style="list-style-type: none"> <li>• Standard Plug-in Interfaces</li> <li>• Extensible Meta-Data Interfaces</li> <li>• Real-time Alert Interfaces</li> </ul>	
10.	Warranty	5 years comprehensive Bidder/OEM	



**ITEM No 41 : Video Analytics-III**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model/Product Name and Version		
3.	Features	Offline Face Recognition- Matching face from pre-recorded video feeds obtained from CCTVs deployed in various critical identified locations of in the city, or with the video feeds received from private or other public organization's video feeds.	
4.		Should be able to pinpoint an event in recorded video and retrieve the relevant video segment from stored video	
5.		Should be an open extensible framework for event based surveillance	
6.		Should provide following functionalities for alerts <ul style="list-style-type: none"> <li>• Setting up and configuration of alerts by authorized user</li> <li>• Storing and retrieving alert definitions for reconfiguration</li> <li>• Annotate and archival of alerts</li> <li>• Searching of alerts based on string and comments entered by user on alerts</li> <li>• Setting up of priority level for alerts</li> <li>• Automatic play of urgent priority alerts</li> </ul>	
7.		Should be Scalable & reliable system that Seamlessly integrates with existing ONVIF compliant CCTV infrastructure	
8.	Warranty	5 years comprehensive Bidder/OEM	

Note: Video Analytics(I, II & III) licenses shall not be bounded by MAC ID of Cameras. The video analytics features and algorithms shall be portable on any selected camera.

**ITEM No 42 : Real Time and Offline Face Recognition System**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model/Product Name and Version		
3.	General requirement	Capture face images from live CCTV feed and generate alerts if a blacklist match is found.	
4.		Search photographs from the database matching suspect features.	
5.		Matching suspected criminal face from pre-recorded video feeds obtained from CCTVs deployed in various critical	

		identified locations of in the city, or with the video feeds received from private or other public organization's video feeds.	
6.		Adding photographs obtained from newspapers, raids, sent by people, etc to the criminal's repository tagged for sex, age, scars, tattoos, etc for future searches.	
7.		Investigate to check the identity of individuals upon receiving such requests from Police Stations.	
8.		Handheld mobile with app for windows OS or android OS to capture a face on the field and get the matching result from the backend server.	
9.	OS Support	The client & server application must work on standard windows platform Windows server 2012.	
10.	Database Support	The proposed system should use MS SQL. or Oracle database.	
11.	Multiple Camera Vendor Support	The proposed system should work with at least 4 different brands of camera makes including all ONVIF compliant cameras	
12.	GUI Customization	The system administrator/ user should have option to customize the view of the GUI.	
13.	User Creation	The proposed system should have option to create different roles and users based of the rights to be given to the user.	
14.	Web Application	The alerts, matching results and enrolment should be available on a web based application.	
15.	Mobile Application	The Face Recognition system must have an integrated mobile device application (Android and IOS), to enrol and verify a captured face image. The matching alerts should be provided on the mobile device over Wi-Fi or GPRS.	
16.	Image Database	The proposed system should have 50,000 face image database for 1: N matching, although the system should be scalable to upgrade for higher a data size as and when required with additional licence for data size.	
17.		The number of face images in the background gallery should be scalable.	
18.	Enrolment	The proposed solution must have a Quality enhancement tool to enhance the images before enrolment based on parameter. It should have option to edit the subject face image, crop a face, It should automatically detect face and eyes in the subject image, options to enhance face image: - , Smooth brightness, contrast, colour adjustment, Rotate the image, and adjust saturation level	
19.		The Proposed system should use 2D face images of JPEG, PNG,BMP, TIFF format for enrolment.	
20.		The proposed system must be able to check if a new enrolled face is already enrolled in the database before registering the new enrolled face in the system.	
21.		The proposed system should have option to enrol face images in bulk with demographic data of the individual.	
22.		The proposed System should have option to automatically enrol face images from a CCTV camera.	
23.		Only one template of face should be created and stored in the database for matching.	

24.	Face Recognition and alerts	The proposed system should have option to send an email if a match is found.		
25.		The proposed solution must have option to generate face matching alerts on a mobile phone with android and iOS operating system.		
26.		The proposed system should have option to generate match alerts with a recorded video. The proposed solution should have option to utilise stored Video from CCTV system to generate matching alert.		
27.		The proposed system should have option to do a still image matching where a user selects a face image of the suspect in JPEG, PNG, BMP, TIFF etc. and match it with the registered face images in the system. This feature should have option to do manually enhance the subject face images, rotate image , crop, change brightness, colour saturation etc		
28.		The proposed system should have capability to create different categories of people. With option to customise the matching threshold for different categories.		
29.		The proposed system should have option to configure alert for an individual based on specific camera or category type. Thus each individual and camera would be given a security level and if an individual with lower security level come in front a camera with higher security level should generate alert. Whereas if individual with higher security level comes in front of a camera with lower security level it may not generate an alert.		
30.		The proposed system should have option to upload bulk subject images and generate alerts if any of the subject images matches with the registered faces in the database.		
31.		The proposed system should have option to generate audio visual alerts at the control room, with option to show the matching results in different colour based on category of the matched individual's image		
32.		Backend Latent face image based forensic investigation	The proposed system should have Facial Forensic Image processing and matching	
33.			The proposed system should also be able to use sketches made by artists or by computer application generated sketches.	
34.	The proposed system should have option to send multiple images search in a consolidated single command.			
35.	The proposed system should display the matching results for configurable top n results.			
36.	The proposed system should utilise advance windows 8 touch screen features.			
37.	The proposed system should have option to add demographic data of the subjects and use the demographic data for filtering for matching.			
38.	The proposed system should be scalable to over 50 million unique identities and that can also incorporate multiple biometrics modalities.			
39.	The proposed system can perform proven matching with low quality images down to 24 pixel counts between the eyes and at varying compression ratios.			

40.		The proposed system shall be able to provide explanation of how the photo comparison results are affected by different photo attributes such as resolution, color depth, format, size and variations in the depiction of a face such as glasses on/off, earrings, smile, and other variations.	
41.		The proposed system can perform face biometric matching even with age difference over 20 years.	
42.		The proposed system must give matching score for the subject image with the entire mug shot gallery the number of faces to be displayed must be configurable	
43.	Warranty	5 years comprehensive Bidder/OEM	

**ITEM No 43 : Automatic Number Plate Recognition Software**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model/Product Name and Version		
3.	General Requirement	The ANPR System shall enable monitoring of vehicle flow at entry/exit, Crossroads and at Strategic locations. The system shall support real-time detection of vehicles at the deployed locations, recording each four wheeler/three wheeler/Any other vehicle, reading its registration number plate, data base lookup from central server and triggering of alarms/alerts based on the vehicle status and category as specified by the database.	
4.	Open Architecture	Open system architecture, integrates seamlessly with third party applications	
5.	Vehicle Detection and Video Capture Module	The System should automatically detect a vehicle in the camera view using video detection and activate registration number plate recognition	
6.	Calibration requirement	The system should be calibrated for accuracy prior to handing over and the successful bidder should ensure annual calibration of the system.	
7.	Processing	Simultaneous Multi-Lane processing	
8.	Registration Number Plate Detection	The System shall automatically detect the registration number plate in the captured video feed in real-time.	
9.		The system shall perform OCR (optical character recognition) of the registration number plate characters (English alphanumeric characters in standard fonts).	
10.		The system shall use algorithms for detection and OCR engine for reading registration number plates in English and Hindi language.	
11.		The system shall be able to recognize variable character sizes, fonts & colors.	
12.		The system shall be able to detect and recognize embassy and defense registration number plates.	
13.		The system shall be able to detect and recognize following:	

		<ul style="list-style-type: none"> <li>• Varying contrast and dirty/damaged registration number plates</li> <li>• Registration number plates with special characters in between the number</li> <li>• Damaged, indented registration number plates</li> <li>• Registration number plates with additional text around the number</li> <li>• Double row registration number plates</li> <li>• Vehicle numbers of buses which do not have a registration number plates , but have the number painted on the body</li> </ul>	
14.	Digital Signature	The system shall provide digital signature to images so that nobody can modify the images.	
15.	Database Requirement	<p>The System shall store following detail into DBMS like PostgreSQL/ MySQL /MS SQL Server/ Oracle 12c database to be provided by bidder</p> <ul style="list-style-type: none"> <li>• Photo of the Vehicle in JPEG format</li> <li>• Photo of Registration number plate</li> <li>• Driver Photo</li> <li>• Registration number in text format</li> <li>• Date and time stamp</li> <li>• GPS Coordinates</li> </ul>	
16.	24x7 Operations	Real time 24 x 7 surveillance solution with high level of accuracy	
17.		Multiple operator can access the software by using web browser at same time	
18.	Speed detection and Accuracy	The system should be able to process and read registration number plates of vehicles with speed even up to 120 km/hr. The accuracy should be more than 75% in daytime and more than 60% in night for standard registration number plates.	
19.	Zoom Capability	The Software should provide zoom function once cursor is brought over the registration number plates	
20.	Driver Image Evidence*	The system shall have a capture module for capturing image of driver who is driving the vehicle. (If separate camera is provided feature should be supported)	
21.	Integration	The system shall be integrated with VMS, CCC and Video Analytics.	
22.		The system shall be integrated with existing e-challan system/RTO database/VAHAN Database of police department.	
23.		The system shall be integrated with GIS maps provided by Government of Rajasthan.	
24.	Vehicle Detection by color*	The system shall detect the color of all vehicles in the camera view during daytime and label them as per the predefined list of configured system colors. The system will store the color information of each vehicle along with the registration number plate information for each transaction in the database.	
25.		The system shall have options to search historical records for post event analysis by the vehicle color or the vehicle color with registration number plate and date time combinations.	
26.	Real time Alarm and Alert Generation	The system should have option to input certain registration number plates according to the hot listed categories like "Wanted", "Suspicious", "Stolen" etc. by authorized personnel	

27.		The system should be able to generate automatic alarm window popup, when new alarm come the previous alarm should be shifted.	
28.		The system should be able to generate automatic alarms to alert the control room personnel for further action, in the event of detection of any vehicle falling in the Hot listed categories.	
29.		The system should be capable to show alarms in one or more than one monitor at same time located over the IP network	
30.	Vehicle Status Alarm Module	On successful recognition of the registration number plate, system should be able generate automatic alarm to alert the control room for vehicles which have been marked as "Wanted", "Suspicious", "Stolen", "Expired". (System should have provision/expansion option to add more categories for future need).	
31.		The Instantaneous and automatic generation of alarms. In case of identity of vehicle in any category which is define by user.	
32.	Vehicle Log Module	The system shall enable easy and quick retrieval of snapshots, video and other data for post incident analysis and investigations. For example a database could be searched using criteria like date, time, location and vehicle number	
33.		The system should be able to generate suitable MIS reports that will provide meaningful data to concerned authorities and facilitate optimum utilization of resources. These reports shall include. <ul style="list-style-type: none"> <li>• Report of vehicle flow at each of the installed locations for Last Day, Last Week and Last Month.</li> <li>• Report of vehicles in the detected categories at each of the installed locations for Last Day, Last Week and Last Month.</li> <li>• Report of Vehicle Status change in different Vehicle Categories</li> </ul>	
34.		The system shall have Search option to tune the reports based on registration number plate, date and time, site location as per the need of the authorities.	
35.		The system shall have option to save custom reports for subsequent use. The system shall have option to export report being viewed to common format for use outside of the ANPRS or exporting into other systems.	
36.		The system should provide advanced and smart searching facility of registration number plates from the database. There should be an option of searching registration number plates almost matching with the specific number entered (up to 1 and 2 character distance).	
37.	Vehicle Category Editor	The system should have option to input certain registration number plates according to category like "Wanted", "Suspicious" "Stolen", "Expired" etc. by Authorized personnel.	
38.		The system should have an option to add new category by authorized personnel. The system should have option to update vehicle status in specific category by authorized personnel. e.g. on retrieval of	

		stolen vehicle, system entry should be changed from "Stolen" to "Retrieved".	
39.		System should have option to specify maximum time to retain vehicle records in specific categories	
40.	<b>Localization and Customization</b>	The OEM is expected to study the requirement with Police Department and customise the ANPR software product to suit their requirements.	
41.	<b>Warranty</b>	5 years comprehensive warranty OEM warranty	

Note: Features marked with asterisk (\*) is required but SLA will not be applicable on those features.

**ITEM No 44 : Speed, Stop line and Red light Violation Detection software**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model/Product Name and Version		
3.	General Requirement	Traffic violations (Red light, Speed and zebra crossing) should be automatically detected by the certified and homologated system and in use with various agencies. Cameras fitted in the equipment should record a digitized image or video frames of the violation covering defined lanes on each approach arm at any point of time simultaneously with relevant data about the offence, i.e. date, time, fixed location and speed etc. so that the complete lane wise junction behavior is recorded viz (Speed of violating vehicle, notified speed limit, Signal Jumping, Stop Line Violation, speed violation with Registration Number Plate Recognition facility). The photograph generated by the system should also include a wider view of the location indicating position of violating vehicle.	
4.	Calibration requirement	The system should be calibrated for accuracy prior to handing over and the successful bidder should ensure annual calibration of the system.	
5.	Position of vehicle at Intersection	The system should detect and capture the vehicle when:- <ul style="list-style-type: none"> <li>i) It violates the stop line</li> <li>ii) It violates the red signal</li> <li>iii) It violates the speed limit in any phase (red or green or amber or even when the signal is not working)</li> </ul> The system should capture the photographic evidence of above violation clearly showing nature of violation & proof thereof.  Infraction is recorded and documented dynamically including the events preceding and following the event.	
6.	Violation Evidence	The system should have violation evidence capturing module.	

	capturing module	<p>Complete data for each infraction should be provided: data, time, location, speed, with automatic number plate detection mechanism (to recognize vehicle automatically)</p> <p>Violations should be available for selection from a displayed list corresponding to each location separately.</p> <p>The retrieval could be sorted by date, time, location and vehicle registration number.</p>	
7.	Color Image	The images in day time should be in color	
8.	Technology for Red light and Stop line Detection False Detection	<p>The system shall have Red light violation capability through video based technology</p> <ul style="list-style-type: none"> <li>The system should be without any integration to the Red light controller and should work on image analysis and color detection of red light signal</li> <li>The system should take input from traffic light and start capturing red light violation as soon as traffic signal turns red.</li> </ul>	
9.		Number of Frames / Violation : 7 to 8	
10.		Time into Red : System should quantify the time in millisecond after red light for infraction for red light violation.	
11.		False Detection: The system shall have capability to identify false detection. A special pedestrian filter is used to avoid false detection in case of pedestrian or other similar object.	
12.	Technology for Speed Detection	<p>Laser based speed detection: Speed should be measured using eye safe laser-class 1 (security class LASER (IEC/EN 60825)</p>	
13.		Traffic violations should be automatically detected by the system. System should provide image of over speeding in particular lane (this is to avoid having multiple vehicles and multiple lanes and images in same image)	
14.		System should be able to provide specific lane of the vehicle when speeding	
15.		Unit of Speed: Km/hr	
16.		The system should be able to read speed upto 250 km/hr $\pm$ 2 %.	
17.		Number of Frames / Violation : 1	
18.		System should provide clear megapixel image with automatic ANPR data with speed in image	
19.	24 x 7 Availability	Should support automated 24 x 7 operations.	
20.	Environmental Conditions	Work effectively in harsh environmental conditions including night	
21.	Integration	The system shall be integrated with ANPR.	
22.		The system shall be integrated with existing e-challan system/RTO database/VAHAN Database of police department.	
23.	Graphical User Interface	i) The user interface broadly should fall into the categories of viewing, sorting and printing violations and system configuration.	



		<p>ii) The violation viewer should be provided with a means of listing the invalid violations along with the reason(s) of invalidation without deleting the original record(s).</p> <p>iii) Duplication of Fines should be possible to incorporate new fine generation for vehicles crossing with same trigger with full image and video proof</p> <p>iv) Software should provide interface for taking prints of the violations</p> <p>v) Easy web based interface</p> <p>vi) There should be a password access system along with user type (admin, user). It should also have the role based permission system for accessing the data base and print.</p>	
24.	Legal Compliance	Complete system should be approved by the Ministry of Transport or Traffic or equivalent in the country of origin.	
25.	<b>Warranty</b>	5 years comprehensive warranty OEM warranty	

**ITEM No 45: Centralized Violation Management System**

S No.	Features	Specifications	Compliance Yes/No
1.	Make		
2.	Model/Product Name and Version		
3.	Single Web Interface for RLVD/Stop lane and Speed Violation Detection	The centralized Violation Server is the core of the full enforcement systems and his components, it should interacts with all devices, control and receive input data and signals, provide all output data and signals and thus provide complete information from single web interface including complete data base.	
4.	Support for multiple violations	The server should be able to manage an high number of violation detection systems (Red light violation, Stop Line, fixed speed, and other types of violations) connected to the same network; the server acquire data from heterogeneous roadside processing systems and is projected to be highly scalable in case of growing of the number of managed devices.	
5.	Encrypted connection and integration with GIS Maps	All roadside systems managed by Violation Server are connected over the network possibly using an encrypted connection to avoid unauthorized access; connection can be performed over any type of IP network. The same should provide complete diagnostic management and should be integrated with GIS Maps provided by Government of Rajasthan so as to easily mark out presence and working of systems.	
6.	Alarm Management	Alarm Management: Vehicles doing multiple infractions should provide pop up alarms to the central server so that the same be intimated to police officer on duty	
7.	Violation Processing and Reports	<p>The Violation Server should provide :</p> <ul style="list-style-type: none"> <li>Violation processing: retrieve transits from all the roadside systems, detect violations and</li> </ul>	

		<p>store in a centralized database.</p> <ul style="list-style-type: none"> <li>• Violation management interface. Store violation informations, make them available for citizen notifications and for later visualization.</li> <li>• Search for a specific violation</li> <li>• Statistic: number of violation detected grouped per device, per day and per hour. For each type of statistic a report should be generated in excel or other standard format</li> <li>• Server administration: Allow administrators to manage the whole system</li> <li>• Diagnostic and maintenance: monitor all roadside equipment to check for diagnostic and permits configuration of all devices</li> </ul>	
8.	Integration	The system shall be integrated with existing e-challan system/RTO database/VAHAN Database of police department.	
9.	Violation Management Interface	<p>The violation data should be stored in server and are available for Violation management interface; Once a violation is detected an unique violation identifier is generated for faster retrieval.</p> <ul style="list-style-type: none"> <li>• Transit data: all information like number plate, date, time, camera name, detected speed, speed threshold, etc.</li> <li>• Violation evidence: the images or video of the vehicle's violation</li> </ul> <p>It should also be possible to retrieve violations data in a predefined format for eventual future systems.</p>	
10.	Graphical User Interface	<p>The server GUI should have the following features:</p> <ul style="list-style-type: none"> <li>• Real time violation monitoring with console. The user can open the violation console where all recent violations are displayed and updated in real time</li> <li>• Violation search from database It is possible to search vehicles into the database with customizable filters based on plate, time, location and status. The system retrieve all requested data and show it into an user friendly interface where the operator can see the transit data (time, plate, location, etc.) and, eventually, the image. Violation search can also be performed using partial plates or jolly characters (e.g. if search for AB123C? the search will be made for all plates that match with AB123CD except the last character).</li> <li>• Map server GIS integration: It is possible to integrate the GUI with MAP servers. With map server integration allow to show all elements (processors and cameras) and all transit search results over a map using the typical GIS map navigation (zooming, panning, etc.). The operator can select a single element (e.g. a camera) and view all information about it or view transits/alarms on that particular camera. GIS map shall be provided by Government of Rajasthan.</li> </ul>	

11.	Maps	Intelligent Map - All information are displayed on the map using simple icons and different colors for different situations to react faster	
12.	Diagnostic Management	Diagnostic management: it is possible to view the full system status and decide what action's has to be taken. Diagnostic statistics: It is possible to make queries on the system to see for how many times the server is reachable during the day or how many time has passed from the time the system signaled the damage to the time of complete problem solving. The diagnostic process performs two type of check: "processor reachable" and "processor status".	
13.	Centralized Storage	All data acquired from roadside systems are stored in the central database and maintained for a predefined amount of time. All vehicle count are aggregated with a granularity of one hour and maintained for a longer time.	
14.	Android Application	Android tablet application  Violation data can be notified to android application installed on policeman's tablet. The tablet application will receive all violation data and display it on the screen so that the policeman can wait for the vehicle coming and stop it.	
15.	Warranty	5 years Comprehensive Bidder/OEM	

**ITEM No 46 : Help Desk Software**

S. No	Specifications	Compliance (Yes/No)
1.	Make:	
2.	Model/Product Name and Version:	
3.	Helpdesk system would automatically generate the incident tickets and log the call. Such calls are forwarded to the desired system support personnel deputed by the SI. These personnel would look into the problem, diagnose and isolate such faults and resolve the issues timely as per SLA.	
4.	The helpdesk system would be having necessary workflow for transparent, smoother and cordial support framework. <ul style="list-style-type: none"> <li>• Provide flexibility of logging incident manually via windows GUI and web interface.</li> <li>• The web interface console of the incident tracking system would allow viewing, updating and closing of incident tickets.</li> <li>• System should provide Knowledge base</li> <li>• Provide seamless integration to events/incident automatically from EMS. Allow categorization on the type of incident calls being logged.</li> <li>• Provide classification to differentiate the criticality of the incident calls via the priority levels, severity levels and impact levels.</li> <li>• Each incident could be able to associate multiple activity logs entries manually or automatically events / incidents from other security tools or EMS.</li> <li>• Provide audit/syslog's and reports to track the updating of each</li> </ul>	

	<p>incident/call ticket.</p> <ul style="list-style-type: none"> <li>Proposed incident/call tracking system would be ITIL compliant.</li> <li>It should integrate with Enterprise Management System event management and support automatic problem registration, based on predefined policies.</li> <li>It should be able to log and escalate user interactions and requests.</li> <li>It should provide status of registered calls to end-users over email and through web.</li> </ul>	
5.	<p>The Service Desk shall manage all aspects of users service and support requirements from incident capture to problem resolution i.e. receive/record user calls through Web, Phone, e-mail, SMS etc; provide initial assessment and attempt first line of resolution; monitor incidents and escalate the mas needed, provide timely feedback to users, provide various management reports etc.</p>	
6.	<p>It shall provide a comprehensive solution that manages all aspects of service and support requirements from incident capture to problem resolution i.e.</p> <ul style="list-style-type: none"> <li>Receive and record calls,</li> <li>provide initial assessment and attempt first line of resolution,</li> <li>Monitor incidents and escalate them as needed,</li> <li>Provide timely feedback to users</li> <li>Provide various management reports.</li> </ul>	
7.	<p>Service Desk shall allow users to register calls through Web and e-mail. It shall provide web-based interface to end-users and helpdesk staff to open service requests, track problems, search for solutions etc.</p> <ul style="list-style-type: none"> <li>It shall provide status of registered calls to end-users over email and through web.</li> <li>It shall have the ability to track work history of calls to facilitate troubleshooting.</li> <li>It shall be capable of assigning call requests to technical staff manually as well as automatically based on predefined rules, and shall support notification and escalation over email, web etc.</li> <li>It shall provide graphical workflow designing with branching which helps in defining complicated workflows</li> </ul>	
8.	<p>Service desk shall also meet following requirements of the users:</p> <ul style="list-style-type: none"> <li>Perform standard changes like password resets;</li> <li>Log changes, complaints, service requests etc.;</li> <li>Provide Management Information ;</li> <li>Maintain a flow of communication with respective department /establishments.</li> </ul>	
9.	<p>Phone, e-mail, SMS etc; provide initial assessment and attempt first line of resolution; monitor incidents and escalate the mas needed, provide timely feedback to users, provide various management reports etc. It shall provide a comprehensive solution that manages all aspects of service and support requirements from incident capture to problem resolution i.e.</p> <ul style="list-style-type: none"> <li>Receive and record calls,</li> <li>provide initial assessment and attempt first line of resolution,</li> <li>Monitor incidents and escalate them as needed,</li> <li>Provide timely feedback to users</li> <li>Provide various management reports.</li> </ul>	
10.	<p>It shall have an updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues. It</p>	

	shall also be able to manage service levels, support request and change management, Asset Tracking and validation, performance reporting etc.	
11.	It shall have an updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues. It shall also be able to manage service levels, support request and change management, Asset Tracking and validation, performance reporting etc.	
12.	Service Desk must provide the ability to customize forms, views, and fields on the fly, without the need to bring the application server down or coding.	
13.	Service Desk must provide workflow capabilities to meet requirements to automate support management and service level management processes to prevent unwanted errors.	
14.	Service Desk must provide the first-line support specialist immediate access to other needed information, such as known incidents, problems, or changes associated with specific infrastructure components.	
15.	Service Desk shall provide change management to link the processes of initiating, scheduling, assessing, implementing, and evaluating changes to the IT infrastructure. It shall also provide change tracking and recording.	
16.	It shall help in Problem Management by Correlating incidents to defects in the IT infrastructure, identifying known errors, and eliminating defects to stabilize infrastructure and prevent future incidents.	
17.	The helpdesk system shall offer features like Request Management, Change Order Management, Knowledge Management and Problem Management. These functions shall work together to reduce response time to network events, ensure the availability of enterprise wide assets, and optimize the efficiency and thoroughness of service to requests.	
18.	Service Desk must verify that service levels are being met and that tasks are being executed correctly	
19.	Warranty: 5 years comprehensive warranty via OEM.	

**ITEM No 47: EPABX System and Configuration**

S. No.	Description	Parameter	Compliance (Yes/No)
	Make		
	Model		
1.	Technology	PCM-TDM,IP, Non-blocking	
2.	Interface	Should support all telecom interfaces in Indian Telecom Service provider offerings	
3.	Type of Interface	ISDN interface for digital, basic interface for Analog lines	
4.	No. of lines -Analog trunk and ISDN BRI, ISDN PRI lines (As per data sheet)	4 PRI from Service provider like BSNL etc. expandable till 8.	
5.	Type of Extension Support	IP, SIP & Analog	
6.	Expansion of Extensions	Multiples of 16/24	
7.	Contact centre Expansion available (Max. capacity)	It must support at least 30 Call centre Agents	
8.	Support for digital trunk lines	Yes	
9.	Support for QSIG (Q interface) & T Interface (Switched Public ISDN line with DSS1)	Yes	

10.	Support for ACD call centre with CTI and advanced call routing	Yes	
11.	Design of EPABX System	Modular with universal slots	
12.	Conferencing	5 party conferencing to be provided (to be configurable dynamically)	
13.	Working on 230v AC mains and DC voltage	Yes	
14.	Required CTI/ACD/Voice logger server to be provided	1 nos.	
15.	Total Registered User Capacity	Minimum 100 nos.	
16.	Concurrent Internal User Connections	Minimum 75	
17.	<b>Warranty</b>	5 years comprehensive warranty OEM warranty	

**ITEM No 48: IP Telephone**

S.No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Mandatory Certifications	ISO 9001 Manufacturer, FCC, UL 60950/IEC 60950	
4.	Phone Features	<ul style="list-style-type: none"> <li>2 Line LCD display with 128x30 or better pixel resolution</li> <li>Should have full duplex speaker phone and dedicated headset port</li> <li>Password based keypad lock or extension mobility feature(through User login &amp; logoff)</li> </ul>	
5.	Calling Features	<ul style="list-style-type: none"> <li>Should provide the directory services to the user by displaying the missed, received and dialed call details including the caller ID and calling time</li> <li>Call Transfer</li> <li>Call Hold</li> <li>Call Forwarding</li> <li>Call Park</li> <li>Group call pickup</li> <li>3-Way Conference</li> <li>Automatic Redial</li> <li>Speed dial</li> <li>Do not Disturb</li> </ul>	
6.	Integration with existing setup	Integration with Cisco Call Manager 8.5 or Higher	
7.	Interoperability with EPABX quoted in this bid	Yes	
8.	Protocol Support	<ul style="list-style-type: none"> <li>The phone should be a SIP/Open SIP based</li> <li>The phone should be IPv4 &amp; IPv6 ready</li> </ul>	
9.	Audio Codes Support	It should support G.711, G.729	
10.	Configuration Management	Configuration update via TFTP/HTTP	

11.	Power	<ul style="list-style-type: none"> <li>Should support IEEE 802.3af PoE</li> <li>Supply through external OEM AC Power Adapter</li> </ul>	
12.	Interfaces	<ul style="list-style-type: none"> <li>Two 10/100BASE-T RJ-45 Ethernet ports (IEEE 802.3) one for the LAN connection and the other for connecting to PC/laptop</li> <li>Supply with 3 Mtr. factory crimped Cat 6A patch cord meeting ISO/IEC 11801,2002,TIA568-C.2 specification/standards</li> </ul>	
13.	<b>Warranty</b>	5 years comprehensive warranty OEM/Bidder warranty	

**ITEM No 49: Radio Gateway Software**

S.No.	Features	Compliance (Yes/No)
1.	Make	
2.	Model/Product Name and Version	
3.	All for ANALOG CHANNELS USING analog RADIOS	
4.	The Radio Dispatcher System should be independent of the IP EPABX. Failure of the IP EPABX should not affect the Radio Dispatcher System	
5.	Continuous listening of Radio Analog voice channel	
6.	All call facility in Radio (All Analog channels to be conferenced together)	
7.	Call Hold option in Radio dispatcher	
8.	The unit should be connected to the radios using the audio and control interfaces of the radio	
9.	Should be agnostic to the make of the radio and its frequency of operation	
10.	The radio gateway unit should convert the audio and control signals received from the radio into IP packets and transmit them to the main system for further processing, over an IP link.	
11.	Should support cluster based redundant main system. The radio gateway unit should be able to get connected to the redundant main system when the working system fails.	
12.	Should be able to control the configuration of the radio, to which it is connected. The configuration will be done by the system administrator	
13.	Should be capable of connecting minimum 4 radio nets	
14.	It should be possible to add more Radio gateway units at different locations or at the same location over the IP network to connect more radio nets.	
15.	The system should be equipped with a voice recording system so that all the voice conversations can be recorded	
16.	Recorded voice files should be accessible from the Web based application to the authorized users	
17.	Voice logger should offer a reporting module to generate the desired reports.	
18.	The configuration of the voice logger should be possible by the system administrator	
19.	The system should have capacity to retain voice logs for a minimum period of 200 hours	
20.	RADIO RECORDS The radio communications should be recorded by the system.	
21.	Voice recording for full conversation is saved on a shared network path	
22.	Voice recording file is tagged by time/date stamp/Incident ID/ Dispatcher ID (means should be customizable)	
23.	5 years comprehensive OEM warranty	

**ITEM No 50: Access Floor**

S.No.	Features	Compliance (Yes/No)
1.	S/F of removable false flooring (Access floor) in 600mmx 600mm grid of UDL of 1000 kg/sqm. The flooring shall be laid using Electro-galvanised adjustable jack made out of 75mm dia Bright bar welded on to 100mmx 10mm x 8mm thick MS. plate with hexagonal nut and check nut and aluminium dia cast jack head, electro-galvanised 40mmx 40mm x 3.16mm thick cold rolled channel for main and cross members. The entire framework and jacks are coated with two coats of synthetic enamel paints over a coat of primer. Removal flooring tiles shall be made from steel. The bottom of the panel shall be embossed in hemispherical shape of size 60mm dia and 12 revers conical of 25mm dia to give strength and flexural rigidity. The top sheet shall be plain and resistant welded at various locations. After the top and bottom sheets have been degreased and phosphate the above hollow panel shall have an infill of light weight cementitious material. The entire panel shall be coated with epoxy coating on the exposed surface. The top of the tile shall be finished with 1.5 mm thick anti-static laminate flooring of approved band and colour. Necessary cut out for running wire manager, switch, A/C grills and equipment supports shall be given. The height of jacks can vary from site to site requirement from 250 mm to 400 mm .	

Preferred Make: Unifloor/Legrand/Benson/ Schneider

**ITEM No 51: Access Ceiling**

S.No.	Features	Compliance (Yes/No)
1.	P/F of perforated METAL LAY-IN ceiling system consisting of 600x600 mm Lay in tiles of pre coated galvanised steel in 0.5 mm thickness in white colour with standard perforation of 2.5 mm dia and open area of 16% and acoustical fleece glued to the back of the tile to be laid on Silhouette grid systems with colour and white/black reveal white having rotary stitching on the Main Runner 1200mm and 600mm Cross Tees. The tile should have Humidity Resistant (RH) of 100%, NRC of 0.5, Fire Performance A2-s1.d0 in module size of 600x600mm, suitable for green building application, with recycal content of 25%. The Tile shall be laid on silhouette profile grid system with 15mm white flanges incorporating a 6mm central reveal in white/black colour and with a web height of 38 mm. Silhouette, main runners and cross tees to have mitred ends & "birdsmouth" notches to provide mitred cruciform junctions. The T Sections have a Galvanising of 120 gms per metre square and passed through 500 hrs of Salt Test. SUSPENSION SYSTEM ACCESSORIES:- M6 fasteners with vertical hangers made of galvanised steel of size 26x26x25x1.2mm with a galvanised thickness of 80gsm and a tensile strength of 344-413 MPa, Adjustable hook clips of 0.8mm thick, galvanised spring steel for 2.68mm with a minimum pull strength of 110kg. Adjustable clip consisting of a 3.5 mm aquiline wire used with the main runner	



**ITEM No 52 : Digital Evidence Management for Forensic Investigation**

S. No	Functions	Specifications	Compliance (Yes/No)
1.	Make		
2.	Model/Product Name and Version		
3.	General Features	<p>Software shall be able to integrate and playback the following channels from a common integrated graphical user interface.</p> <ul style="list-style-type: none"> <li>• Channels connected to trunked radio system.</li> <li>• Channels connected to conventional radio frequencies.</li> <li>• channels connected to Dispatcher consoles for radio console</li> <li>• channels connected to Dispatcher telephone stations</li> <li>• channels connected to Call-Taker telephone stations</li> <li>• channels of Video from Video Management System</li> <li>• channels connected to Video Wall Screens</li> <li>• channels connected to operator screens e.g. response of the operator at the time of Incident as per SOP</li> <li>• channels connected to GPS data on GIS maps</li> <li>• channels of ANPR cameras and video analytics camera channels</li> </ul>	
4.	Searching Capability	<p>Software shall have capability to simultaneously search and replay recorded telephone, VOIP, Screen recording, GPS data on GIS maps, conventional and digital radio channels as well as trunked radio communications using captured data from system without any extraneous process by the operator. All communications regarding a specific incident should be able to be replayed together in the sequence in which the communications occurred.</p>	
5.	Audio and Video Encryption	<p>Software shall have capability so that all audio and video files stored on the recorder must be saved in a format that cannot be played via standard replay application, such as Windows Media Player, QuickTime, and others. Such formats can be easily tampered. Any Supplier's software that stores voice recordings in a standard format (wav, MP3, etc) will not be considered. In order to support OPENESS of the system, the OEM shall provide a mechanism to provide recorded data in a secure format, which shall not be accessible by any application, via a file system.</p>	
6.	Incident and Event Reconstruction	<p>This software must support parallel recording environments in two ways:</p> <ul style="list-style-type: none"> <li>• transparent to the user, the system will search and retrieve recordings from the parallel recording systems and the user will be able to select whether or not duplicate recordings will be presented</li> <li>• by allowing the user the ability to switch between multiple recording complexes.</li> </ul>	
7.		<p><b>Search Capability</b> The software must allow simple and quick search based on frequently used search parameters. At least three search parameters could be configured by the user to best fit its needs.</p>	

		<p>The FIS reconstruction application must support searches using annotation data including text annotation, voice annotation and bookmarks as the search criteria. Searches by text annotations must be available by any part of the text content.</p> <p>The software must allow multimedia and multi-source searches from a single application without the need to switch between screens and databases for each media type or source. For example: recorded audio from both radio and telephony systems, as well as recorded video could be searched from a single query.</p> <p>The software must allow saving and editing of searches to be used by either all users (public searches) or by a specific user (private searches).</p>	
8.		<p><b>Search Result Display</b></p> <p>The software must be capable of displaying multimedia search results graphically arranged by time of recording to allow a full view of the incident picture.</p> <p>The software must allow for the user to configure the graphical display by channel, resource, radio-id, and talk-group. The FIS reconstruction application must be capable of displaying multimedia search results in table format.</p> <p>The software must allow for the user to configure the table display to include any of the available fields in the database and to sort the table by any of its columns.</p>	
9.		<p><b>Replay</b></p> <p>The software must be capable of replaying an unlimited number of multimedia channels in synchronized mode. The software must allow the user the capability of selecting and replaying part of a call, transmission, and video in either single item selection or when selecting multiple items.</p> <p>The software must support block replay. This replay feature involves the selection of multiple recordings displayed graphically.</p> <p>The software must be able to replay the silence between recordings to fully recreate the original incident. The application must allow the user the option to play back the recordings with silence between recordings played (silence reconstruction) or not (skip silence).</p> <p>The software must support the playback of recordings in mixed mode, where the recordings are replayed as they occurred; or in sequential mode, where each recording is played back sequentially one at a time. This may aid the user in understanding individual recordings where multiple occur on different recorder channels simultaneously.</p>	
10		<p><b>Search Results Management</b></p> <p>The software must allow the user to add selected items to a clipboard. This is to allow the user to focus on group of recordings and get a better understanding of the incident.</p> <p>The software must allow the user to filter the search results based on user-configurable parameters. The filter could be activated to include or exclude recording that match the filter criteria.</p>	

		<p>The software must provide the capability to text annotate selected recordings. The annotation field will be at least 4000 characters in length and allow 10 such entries per call. The search and replay application must allow the user to search on text within the annotation field. The text annotation field will be stamped with a specific point of time so it can be related to a specific part of the recording.</p> <p>The software must provide the capability to voice annotate selected recordings. The search and replay application must allow a minimum of 10 voice annotations per recording and be capable of graphically displaying the voice annotations within the recording. The voice annotation field will be stamped with a specific point of time so it can be related to a specific part of the recording.</p> <p>The software must allow the user to set flags (markers) within a recording. In addition, the search and replay tool must be capable of graphically displaying the flags within the recording. The flag will be stamped with a specific point of time so it can be related to a specific part of the recording.</p>	
11		<p><b>Output</b></p> <p>The software must be able to save the audio from a custom search into a single stereo .wav or .wma file. The software must be able to save the audio and the video from a custom search into a single stereo .avi file.</p> <p>The software must allow saving the audio with both spoken date and time and with Automatic Gain Control (AGC).</p> <p>The software must enable the user to save the audio without silence by utilising saved sequential playback.</p> <p>The software must provide the ability to print the recordings' associated data in a table format. The user must be able to configure which data fields will be included in the print.</p>	
12	Incident Information Management	<p>The software should support upload of incident related information into a single folder. The information should include: recordings made by the system as well as other related files - documents, photos, video clips, etc. The software must present the Incident folder storage usage. Also an alert must be generated by the system if the available space is smaller than defined (1-100%).</p> <p>The software must allow exporting an incident folder and importing an incident folder created by another system.</p> <p><b>Distribution Management</b></p> <p>The software must enable remote access to information for authorized users. This could be used by investigators, for example, in order to review evidentiary material in an organized manner rather than replay it from CD or cassette.</p> <p>The software must support production of multimedia recordings. The software must support inclusion certification audio for both authentication and introduction purposes.</p> <p>The software must support production of multimedia recordings.</p> <p>Software shall support data integrity</p> <p><b>Security</b></p>	

		<p>The distribution process and created incident folders must support an authentication mechanism to ensure the integrity of the incident information including audio and video recording as well as files such as: documents, photos, video clips, etc. The software must enable traceability of actions history taken on any of the incident information items.</p> <p>The software must support the quarantine of incident information. This is to ensure sensitive case information is stored separately from other recordings.</p>	
13	Digital evidence Management	<p>The SI shall provide a holistic platform which shall be able to collect, manage, analyse and share data from multiple data sources.</p> <p>The data sources shall include video, incar video, text, DIAL 100 audio, radio, ANPR, private CCTV systems, GIS, Interview video, crime scene images, photos, witness statements, mobile forensic extraction.</p> <p>The system shall provide a portal for citizens to share photos and videos, and also a prosecution portal to request and access digital evidence.</p>	
14	Warranty	5 years comprehensive Bidder/OEM	

**ITEM No 53 : Forensic Investigation Software/Video and image Forgery Detection Software**

S. No	Features	Compliance (Yes/No)
1.	Make	
2.	Model/Product Name and Version	
3.	Detects digitally edited photos, videos and PDF files	
4.	Software shall detect following type of video forgery: <ul style="list-style-type: none"> <li>• Source manipulation</li> <li>• Splicing</li> <li>• Copy Move forgery</li> </ul>	
5.	Software shall have the capability to match photograph	
6.	Software shall have the capability to determine whether or not JPEG photos have been digitally altered (“photo shopped”) since leaving the camera or mobile device, i.e. determining if the photo has been processed by any photo editing software	
7.	Software shall have the capability to Identify a source camera to detect the particular camera or mobile device used to capture a digital photo, proving a particular image was obtained by a particular device. It should be able to differentiate between video and image taken from cameras and smartphones of the same make and model.	
8.	Software shall have the capability to instantly highlight the modified of parts of digital images and videos	
9.	Software shall support popular image and videos like JPEG,*.avi etc.	
10.	The software shall have capability to repair and recover videos and provide forensic video enhancement of video evidence for identifying suspects.	

11.	Warranty 5 years comprehensive Bidder/OEM	
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**ITEM NO 54 : Full HD IP Dome Camera with IR**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Camera Type	Dome	
4.	Standard	ONVIF Profile S Compliant	
5.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
6.	Certification	UL,CE/BIS ,FCC and RoHS	
7.	Edge Storage	microSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB (Min. Class 6 or higher, Card to be included). In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage.	
8.	Image Sensor	1/2.8" CMOS or better	
9.	Resolution	2MP (Min.1920 x 1080) at 25 FPS or better	
10.	Max. Mbps Constrained VBR	3	
11.	Compression	H.264,H.265	
12.	Streaming	Min. Triple compressed stream (Individually Configurable)	
13.	Audio	Full Duplex, Audio Input/ Output 1 Ch	
14.	Alarm	1 digital input, 1 Relay output	
15.	Audio Compression	G.726/G.711	
16.	Pre/Post Alarm buffer	Yes	
17.	ID/Password	Multi-level user ID/Password	
18.	Encryption	HTTP(SSL/TLS)/HTTPS	

19.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	
20.	Physical Layer	10/100 base Tx Ethernet or better	
21.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPv6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS,HTTPS	
22.	IP Support	Static/dynamic or both	
23.	Remote Administration	Remote configuration and status using web based tool	
24.	System Update	Remote system update over Network using web client	
25.	PC Client	PC application client with a channel recording feature support	
26.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	
27.	Simultaneous Connection	5 users or more	
28.	Lens Type	3 to 9 mm, F1.3 motorised autofocus and autoiris ,varifocal or better	
29.	Dynamic Noise Reduction	3D	
30.	Auto Exposure	Automatic Level Control/Electronic Level Control	
31.	Illumination	Color: 0.3 lux, F1.3 or better B/W: 0.04 lux, F1.3 or better At 30 IRE Inbuilt IR (25mtrs. or better)	
32.	Signal Process	Digital Signal Process	
33.	Motion Detection Zones/ privacy zones	3 or higher	
34.	Auto Gain Control	Yes	
35.	Back Light Compensation	Yes	
36.	Electronic Shutter	1/10000s to 1 s or better	
37.	White Balance	Yes	
38.	Wide Dynamic Range	min 120 db (Sensor based)	
39.	Day and Night	Yes (as per minimum illumination)	
40.	Operating Temperature	0 °C to 60 °C Humidity 20–80% RH (non-condensing)	

41.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm 10\%$ , 50Hz and Power over Ethernet (POE 802.3 af)	
42.	Internet protocol Support	IPv4 and IPv6	
43.	Housing	Poly Carbonate/ Aluminium Construction with IP-66 Including pole mount/wall mount accessories , Power and data cables	
44.	Anti-Vandalism rating	IK10	
45.	Edge based video content Analytics	Video motion detection and Active tampering alarm	
46.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
47.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 55 : Full HD IP Bullet Camera with IR**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Camera Type	Bullet	
4.	Standard	ONVIF Profile S Compliant	
5.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
6.	Certification	UL,CE/BIS ,FCC and RoHS	
7.	Edge Storage	microSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB (Min. Class 6 or higher, Card to be included). In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage.	
8.	Image Sensor	1/2.8" CMOS or better	
9.	Resolution	2MP (Min.1920 x 1080) at 25 FPS or better	
10.	Max. Mbps Constrained VBR	3	

11.	Compression	H.264,H.265	
12.	Streaming	Min. Triple compressed stream (Individually Configurable)	
13.	Audio	Full Duplex, Audio Input/ Output 1 Ch	
14.	Alarm	1 digital input, 1 Relay output	
15.	Audio Compression	G.726/G.711	
16.	Pre/Post Alarm buffer	Yes	
17.	ID/Password	Multi-level user ID/Password	
18.	Encryption	HTTP(SSL/TLS)/HTTPS	
19.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	
20.	Physical Layer	10/100 base Tx Ethernet	
21.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPv6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS	
22.	IP Support	Static/dynamic or both	
23.	Remote Administration	Remote configuration and status using web based tool	
24.	System Update	Remote system update over Network using web client	
25.	PC Client	PC application client with a channel recording feature support	
26.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	
27.	Simultaneous Connection	5 users or more	
28.	Lens Type	3 to 9 mm, F1.3 motorised autofocus and p-iris ,varifocal or better	
29.	Dynamic Noise Reduction	3D	
30.	Auto Exposure	Automatic Level Control/Electronic Level Control	
31.	Illumination	Color: 0.3 lux, F1.3 or better B/W: 0.04 lux, F1.3 or better At 30 IRE Inbuilt IR (25mtrs. or better)	
32.	Signal Process	Digital Signal Process	
33.	Motion Detection Zones/ privacy zones	3 or higher	



34.	Auto Gain Control	Yes	
35.	Back Light Compensation	Yes	
36.	Electronic Shutter	1/10000s to 1 s or better	
37.	White Balance	Yes	
38.	Wide Dynamic Range	min 120 db (Sensor based)	
39.	High Light Compensation	Yes	
40.	Day and Night	Yes (as per minimum illumination)	
41.	Operating Temperature	0 °C to 60°C Humidity 20–80% RH (non-condensing)	
42.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz and Power over Ethernet (POE 802.3 af)	
43.	Internet protocol Support	IPv4 and IPv6	
44.	Housing	Poly Carbonate/ Aluminium Construction with IP-66 Including pole mount/wall mount accessories , Power and data cables Polycarbonate bird control spike	
45.	Anti-Vandalism rating	IK10	
46.	Edge based video content Analytics	Video motion detection and Active tampering alarm	
47.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
48.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 56: Full HD IP Box Camera**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Camera Type	Box	
4.	Standard	ONVIF Profile S Compliant	
5.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
6.	Certification	UL,CE/BIS ,FCC and RoHS	
7.	Edge Storage	microSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB (Min. Class 6 or higher, Card to be included).	

		In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage.	
8.	Image Sensor	1/2" CMOS or better	
9.	Resolution	2MP (Min.1920 x 1080) at 25 FPS or better	
10.	Max. Mbps Constrained VBR	3	
11.	Compression	H.264,H.265	
12.	Streaming	Min. Triple compressed stream (Individually Configurable)	
13.	Audio	Full Duplex, Audio Input/ Output 1 Ch	
14.	Alarm	1 digital input, 1 Relay output	
15.	Audio Compression	G.726/G.711	
16.	Pre/Post Alarm buffer	Yes	
17.	ID/Password	Multi-level user ID/Password	
18.	Encryption	HTTP(SSL/TLS)/HTTPS	
19.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	
20.	Physical Layer	10/100 base Tx Ethernet	
21.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPV6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS	
22.	IP Support	Static/dynamic or both	
23.	Remote Administration	Remote configuration and status using web based tool	
24.	System Update	Remote system update over Network using web client	
25.	PC Client	PC application client with a channel recording feature support	
26.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	
27.	Simultaneous Connection	5 users or more	
28.	Lens Type	8-50 mm, F1.6 or better, C/CS Mount, Varifocal, p-iris and IR Corrected	
29.	Dynamic Noise Reduction	3D	
30.	Auto Exposure	Automatic Level Control/Electronic Level Control	
31.	Illumination	Color: 0.3 lux, F1.6 or better B/W: 0.04 lux, F1.6 or better At 30 IRE	
32.	Signal Process	Digital Signal Process	
33.	Motion Detection Zones/ privacy zones	3 or higher	
34.	Auto Gain Control	Yes	

35.	Back Light Compensation	Yes	
36.	Electronic Shutter	1/10000s to 1 s or better	
37.	White Balance	Yes	
38.	Wide Dynamic Range	min 120 db (Sensor based)	
39.	High Light Compensation	Yes	
40.	Day and Night	Yes (as per minimum illumination)	
41.	Operating Temperature	0 °C to 60 °C Humidity 20–80% RH (non-condensing)	
42.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz and Power over Ethernet (POE 802.3 af)	
43.	Internet protocol Support	IPv4 and IPv6	
44.	Housing Outdoor	<ul style="list-style-type: none"> <li>• Poly Carbonate/ Aluminium Construction with IP-66</li> <li>• Having sun-Shield in-built</li> <li>• Polycarbonate bird control spike</li> <li>• Including pole mount/wall mount accessories , Power and data cables</li> <li>• Anti-Vandalism rating -IK 10</li> </ul>	
45.	Edge based video content Analytics	Video motion detection and Active tampering alarm	
46.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
47.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 57 : Full HD IP PTZ Camera with IR**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Camera Type	PTZ	
4.	Standard	ONVIF Profile S Compliant	
5.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
6.	Certification	UL,CE/BIS ,FCC and RoHS	
7.	Edge Storage	microSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB (Min. Class 6 or higher, Card to be included). In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage.	
8.	Image Sensor	1/2.8" CMOS or better	
9.	Resolution	2MP (Min.1920 x 1080) at 25 FPS or better	

10.	Max. Mbps Constrained VBR	5	
11.	Compression	H.264,H.265	
12.	Streaming	Min. Triple compressed stream (Individually Configurable)	
13.	Audio	Full Duplex, Audio Input/ Output 1 Ch	
14.	Alarm	1 digital input, 1 Relay output	
15.	Audio Compression	G.726/G.711	
16.	Pre/Post Alarm buffer	Yes	
17.	ID/Password	Multi-level user ID/Password	
18.	Encryption	HTTP(SSL/TLS)/HTTPS	
19.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	
20.	Physical Layer	10/100 base Tx Ethernet	
21.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPV6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS	
22.	IP Support	Static/dynamic or both	
23.	Remote Administration	Remote configuration and status using web based tool	
24.	System Update	Remote system update over Network using web client	
25.	PC Client	PC application client with a channel recording feature support	
26.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	
27.	Simultaneous Connection	5 users or more	
28.	Lens Type	4.3–129 mm/4.5–135 mm (x30), F1.6 or better motorised Varifocal,Autofocus, Autoiris	
29.	Dynamic Noise Reduction	3D	
30.	Auto Exposure	Automatic Level Control/Electronic Level Control	
31.	Intelligent Defog	Yes	
32.	Illumination	Color: 0.3 lux, F1.6 or better B/W: 0.04 lux, F1.6 or better At 30 IRE Inbuilt IR (175 mtrs. or better)	
33.	Signal Process	Digital Signal Process	
34.	Motion Detection Zones/ privacy zones	3 or higher	
35.	Auto Gain Control	Yes	
36.	Back Light Compensation	Yes	
37.	High Light Compensation	Yes	
38.	Electronic Shutter	1/10000s to 1 s or better	
39.	White Balance	Yes	
40.	Wide Dynamic Range	min 120 db (Sensor based)	
41.	Day and Night	Yes (as per minimum illumination)	

42.	Operating Temperature	0 °C to 60 °C Humidity 20–80% RH (non-condensing)	
43.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz and Power over Ethernet (POE 802.3 at)	
44.	Internet protocol Support	IPv4 and IPv6	
45.	Housing	Poly Carbonate/ Aluminium Construction with IP-66 Including pole mount/wall mount accessories , Power and data cables	
46.	Anti-Vandalism rating	IK10	
47.	Panning Range and Speed	0 deg to 360 deg, 0.2°/s–160°/s	
48.	Tilting Range and Speed	180°, 0.2°/s–120°/s	
49.	Presets	100 presets or higher	
50.	Edge based video content Analytics	Video motion detection and Active tampering alarm	
51.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
52.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 58: 4K Bullet Camera with IR**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Camera Type	4K	
4.	Standard	ONVIF Profile S Compliant	
5.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
6.	Certification	UL,CE/BIS ,FCC and RoHS	
7.	Edge Storage	microSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB (Min. Class 6 or higher, Card to be included). In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage.	
8.	Image Sensor	1/2.8" CMOS or better	
9.	Resolution	Min.3840 x 2160 at 25 FPS or better	
10.	Max. Mbps Constrained VBR	6	
11.	Compression	H.264,H.265	
12.	Streaming	Min. Triple compressed stream (Individually Configurable)	

13.	Audio	Full Duplex, Audio Input/ Output 1 Ch	
14.	Alarm	1 digital input, 1 Relay output	
15.	Audio Compression	G.726/G.711	
16.	Pre/Post Alarm buffer	Yes	
17.	ID/Password	Multi-level user ID/Password	
18.	Encryption	HTTP(SSL/TLS)/HTTPS	
19.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	
20.	Physical Layer	10/100 base Tx Ethernet	
21.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPv6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS	
22.	IP Support	Static/dynamic or both	
23.	Remote Administration	Remote configuration and status using web based tool	
24.	System Update	Remote system update over Network using web client	
25.	PC Client	PC application client with a channel recording feature support	
26.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	
27.	Simultaneous Connection	5 users or more	
28.	Lens Type	3-9 mm, varifocal, Motorized with auto-focus P- Iris Lens	
29.	Dynamic Noise Reduction	3D	
30.	Auto Exposure	Automatic Level Control/Electronic Level Control	
31.	Illumination	Color: 0.3 lux, F1.3 or better B/W: 0.1 lux, F1.3 or better At 30 IRE Inbuilt IR (40 mtrs. or better)	
32.	Signal Process	Digital Signal Process	
33.	Motion Detection Zones/ privacy zones	3 or higher	
34.	Auto Gain Control	Yes	
35.	Back Light Compensation	Yes	
36.	Electronic Shutter	1/10000s to 1 s or better	
37.	White Balance	Yes	
38.	Wide Dynamic Range	min 96 db/ DWDR	
39.	High Light Compensation	Yes	
40.	Day and Night	Yes (as per minimum illumination)	
41.	Operating Temperature	0 °C to 60 °C Humidity 20–80% RH (non-condensing)	
42.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz and Power over Ethernet (POE 802.3 af)	
43.	Internet protocol Support	IPv4 and IPv6	

44.	Housing	Poly Carbonate/ Aluminium Construction with IP-66 Including pole mount/wall mount accessories , Power and data cables Polycarbonate bird control spike	
45.	Anti-Vandalism rating	IK10	
46.	Edge based video content Analytics	Video motion detection and Active tampering alarm	
47.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
48.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 59 : Camera Specialized for PCR VAN with NVR**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Camera Type	Mobile Speed Dome	
4.	Standard	ONVIF Profile S Compliant	
5.	Certification	UL,CE/BIS ,FCC and RoHS	
6.	Edge Storage	microSD/microSDHC/microSDXC slot supporting memory card for min. 64 GB (Min. Class 6 or higher, Card to be included)	
7.	Image Sensor	1/2.8" CMOS or better	
8.	Resolution	2MP (Min.1920 x 1080) at 25 FPS or better	
9.	Max. Mbps CVBR	6	
10.	Compression	H.264,H.265	
11.	Streaming	Min. Triple compressed stream (Individually Configurable)	
12.	Encryption	HTTP(SSL/TLS)/HTTPS	
13.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	
14.	Physical Layer	10/100 base Tx Ethernet	
15.	Network	3G, 4G Mobile Network Wifi: 802.11 a/b/g/n	
16.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPv6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS,DDNS, HTTPS	
17.	IP Support	Static/dynamic or both	
18.	Remote Administration	Remote configuration and status using web based tool	
19.	System Update	Remote system update over Network using web client	
20.	PC Client	PC application client with a channel recording feature support	
21.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	

22.	Simultaneous Connection	5 users or more	
23.	Lens Type	5.9-135.7mm, 20x motorised ,Autofocus, Autoiris, Varifocal	
24.	Dynamic Noise Reduction	3D	
25.	Auto Exposure	Automatic Level Control/Electronic Level Control	
26.	Intelligent Defog	Yes	
27.	Illumination	Color: 0.05 lux, F1.6 B/W: 0.01 lux, F1.6 At 30 IRE Inbuilt IR (60 mtrs. or better)	
28.	Signal Process	Digital Signal Process	
29.	Auto Gain Control	Yes	
30.	Back Light Compensation	Yes	
31.	High Light Compensation	Yes	
32.	Electronic Shutter	1/10000s to 1 s or better	
33.	White Balance	Yes	
34.	Wide Dynamic Range	96db	
35.	Day and Night	Yes, (ICR)	
36.	Operating Temperature	0 °C to 60 °C Humidity 20–80% RH (non-condensing)	
37.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz and Power over Ethernet (POE 802.3 at) OR 12 V DC through NVR	
38.	Internet protocol Support	IPv4 and IPv6	
39.	Housing	Poly Carbonate/ Aluminium Construction with IP-66 Including pole mount/wall mount accessories , Power and data cables	
40.	Presets	100 presets or higher	
41.	Edge based video content Analytics	Face detection, Intrusion detection, Line crossing detection, Video motion detection and Active tampering alarm	
42.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
43.	Certifications	EN50155	
44.	Warranty	5 Years Comprehensive OEM Warranty	
45.	<b>NVR</b>		
46.	IP video input	4 ch independent POE interfaces	
47.	Two-way audio	1 ch	
48.	Incoming bandwidth	atleast 80 Mbps	
49.	Encoding technique	H.264,H.265	
50.	Recording resolution	Min.1920 x 1080	
51.	VGA output	1-ch with resolution upto 1920x1080	
52.	CVBS output	1-ch; aviation plug	
53.	Live view	Simultaneous 4 ch	



54.	HDD type	Pluggable 2 - 2.5-inch SATA HDDs / SSDs, external storage expansion	
55.	Capacity	1 TB capacity HDD each	
56.	Protection	3-generation hard disk box	
57.	Backup interfaces	Hard disk box, USB interface and eSATA interface supporting data backup	
58.	Dialling	3G (WCDMA) with dual SIM card mode	
59.	Wi-Fi	802.11 b/g/n supported, 2.4GHz	
60.	GPS	Support	
61.	Network interface	1; RJ45; 10M/100M self-adaptive Ethernet interface	
62.	Antenna interface	SMA interfaces: 2 for 3G, 1 for Wi-Fi and 1 for GPS	
63.	Serial interface	RS-232, RS-422, aviation plug	
64.	eSATA interface	1	
65.	USB interface	Front USB Port	
66.	EXP.STOR	Connectable to external HDD for storage expansion	
67.	SIM card	2, standard SIM card slots	
68.	Operating system	Linux	
69.	Operating method	IR remote control	
70.	Working temperature	-10°C to 55 °C	
71.	Working humidity	10% to 90%	
72.	Anti Vibration	Military standards for HDD Vibration Protection	
73.	Warranty	5 Years Comprehensive OEM Warranty	
74.	<b>Display</b>		
75.	TFT	21 inch TFT to be provided along with all necessary cables for connecting with NVR/Camera for display and power adapter etc.	
76.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 60 : Camera Specialized for Prisoner VAN with NVR**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	No of Cameras to be supplied	Indoor Camera- 1 Outdoor Camera- 5 (In front-1, In Back-1, Side-2, top-1 PTZ)	
4.	Standard	ONVIF Profile S Compliant	
5.	Certification	UL,CE/BIS ,FCC and RoHS	
6.	Image Sensor	1/2.8" CMOS or better	
7.	Resolution	2MP (Min.1920 x 1080) at 25 FPS or better	
8.	Max. Mbps Constrained VBR	Indoor/Outdoor: 3 PTZ: 5	
9.	Compression	H.264,H.265	
10.	Streaming	Min. Dual compressed stream (Individually Configurable)	
11.	Encryption	HTTP(SSL/TLS)/HTTPS	
12.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	

13.	Physical Layer	10/100 base Tx Ethernet	
14.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPv6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS,DDNS, HTTPS	
15.	IP Support	Static/dynamic or both	
16.	Remote Administration	Remote configuration and status using web based tool	
17.	System Update	Remote system update over Network using web client	
18.	PC Client	PC application client with a channel recording feature support	
19.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	
20.	Simultaneous Connection	5 users or more	
21.	Lens Type	Indoor/Outdoor-2.8mm, F1.3 or better PTZ-5.9-135.7mm, 23x motorised ,Autofocus, Autoiris, Varifocal	
22.	Dynamic Noise Reduction	3D	
23.	Auto Exposure	Automatic Level Control/Electronic Level Control	
24.	Intelligent Defog	PTZ-Yes	
25.	Illumination	For Indoor/Outdoor Color: 0.3 lux, F1.3 or better B/W: 0.04 lux, F1.3 or better At 30 IRE Inbuilt IR (25mtrs. or better)  For PTZ: Color: 0.05 lux, F1.6 B/W: 0.01 lux, F1.6 At 30 IRE Inbuilt IR (60 mtrs. or better)	
26.	Signal Process	Digital Signal Process	
27.	Auto Gain Control	Yes	
28.	Back Light Compensation	Yes	
29.	High Light Compensation	Yes	
30.	Electronic Shutter	1/10000s to 1 s or better	
31.	White Balance	Yes	
32.	Wide Dynamic Range	min 120 db (Sensor based)	
33.	Day and Night	Yes, (ICR)	
34.	Operating Temperature	0 °C to 60 °C Humidity 20–80% RH (non-condensing)	
35.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz and Power over Ethernet (POE 802.3 at) OR 12 V DC through NVR	
36.	Internet protocol Support	IPv4 and IPv6	
37.	Housing	Poly Carbonate/ Aluminium Construction with IP-66	

		Including pole mount/wall mount accessories, Pneumatic mount as per requirement (Min. 2 ft.), Power and data cables	
38.	PTZ-Presets	100 presets or higher	
39.	Edge based video content Analytics	Video motion detection and Active tampering alarm	
40.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
41.	Certifications for all cameras in solution	EN50155	
42.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	
43.	<b>NVR</b>		
44.	General	NVR Shall have capability to send the recording of stored feed to datacentre on restoration of connectivity.	
45.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
46.	IP video input	8 ch independent POE interfaces	
47.	Two-way audio	1 ch	
48.	Incoming bandwidth	atleast 80 Mbps	
49.	Encoding technique	H.264,H.265	
50.	Recording resolution	Min.1920 x 1080	
51.	VGA output	1-ch with resolution upto 1920×1080	
52.	CVBS output	1-ch; aviation plug	
53.	Live view	Simultaneous 4 ch	
54.	Storage Capacity	Min 2 TB capacity SATA HDD/SSD	
55.	Protection	3-generation hard disk box	
56.	Backup interfaces	Hard disk box, USB interface and eSATA interface supporting data backup	
57.	Dialling	4G with dual SIM card mode	
58.	Wi-Fi	802.11 b/g/n supported, 2.4GHz	
59.	GPS	Support	
60.	Network interface	1; RJ45; 10M/100M self-adaptive Ethernet interface	
61.	Antenna interface	SMA interfaces: 2 for 4G, 1 for Wi-Fi and 1 for GPS	
62.	Serial interface	RS-232, RS-422, aviation plug	
63.	eSATA interface	1	
64.	USB interface	Front USB Port	
65.	EXP.STOR	Connectable to external HDD for storage expansion	
66.	SIM card	2, standard SIM card slots	
67.	Operating system	Linux	
68.	Operating method	IR remote control	
69.	Working temperature	-10°C to 55 °C	
70.	Working humidity	10% to 90%	
71.	Anti Vibration	Military standards for HDD Vibration Protection	
72.	Power Protection	<ul style="list-style-type: none"> <li>SI has to arrange necessary equipment/device for protection of NVR on start of vehicle.</li> <li>SI has to ensure the last video feed file to be saved after any abrupt power failure or vehicle shutdown.</li> </ul>	

73.	Accessories	All required accessories for installation of NVR in PCR VAN to be provided like brackets, Connector kit, screws etc.	
74.	Warranty	5 Years Comprehensive OEM Warranty	
75.	<b>Display</b>		
76.	Display	Min 10 inch display to be provided along with all necessary cables for connecting with NVR/Camera for display and power adapter etc.	
77.	Accessories	All required accessories for installation of Display in PCR VAN to be provided like brackets, Connector kit, screws etc.	
78.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 61 : ANPR Camera**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Camera Type	Box, with inbuilt ANPR software application	
4.	Standard	ONVIF Profile S Compliant	
5.	Certification	UL , CE/BIS ,FCC and RoHS	
6.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
7.	Integration with ANPR System	SI has to integrate camera with existing ANPR and RLVD System and should be compatible with Central server supplied by Engine Srl.	
8.	Internal Memory	Min. 64 GB	
9.	Image Sensor	1/2.8" CMOS or better	
10.	Resolution	2MP (Min.1920 x 1080) at 60 FPS or better	
11.	Max. Mbps Constrained VBR	4	
12.	Compression	H.264/H.265	
13.	Streaming	Min. four compressed stream (Individually Configurable)	
14.	Alarm	1 digital input, 1 digital output	
15.	Pre/Post Alarm buffer	Yes	
16.	ID/Password	Multi-level user ID/Password	
17.	Encryption	HTTP(SSL/TLS)/HTTPS	
18.	Video Authentication	For video authentication, classic watermarks/digital signature must be embedded in Video Stream along with name, time, date stamped which cannot be tampered	
19.	Physical Layer	10/100 base Tx Ethernet	
20.	Protocol	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPV6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS	
21.	IP Support	Static/dynamic or both	
22.	Remote Administration	Remote configuration and status using web based tool	
23.	System Update	Remote system update over Network using web client	

24.	PC Client	PC application client with a channel recording feature support	
25.	Web Client	Viewer through HTTP(min.) System Configuration Setting / Streaming	
26.	Simultaneous Connection	5 users or more	
27.	Lens Type	8-50 mm, F1.6 or better, C/CS Mount, Varifocal, DC-iris and IR Corrected	
28.	Dynamic Noise Reduction	3D	
29.	Auto Exposure	Automatic Level Control/Electronic Level Control	
30.	Illumination	Color: 0.3 lux, F1.6 or better B/W: 0.04 lux, F1.6 or better At 30 IRE Integrated external IR, 850nm, 20 degree (25 mtrs. or better for ANPR)	
31.	Signal Process	Digital Signal Process	
32.	Auto Gain Control	Yes	
33.	Back Light Compensation	Yes	
34.	Electronic Shutter	1/10000s to 1 s or better	
35.	White Balance	Yes	
36.	High Light Compensation	Yes	
37.	Day and Night	Yes (as per minimum illumination)	
38.	Operating Temperature	0 °C to 60 °C Humidity 20–80% RH (non-condensing)	
39.	Power Source	Suitable adaptor shall be supplied to make the equipment work on 230V $\pm$ 10%, 50Hz	
40.	Internet protocol Support	IPv4 and IPv6	
41.	Housing	<ul style="list-style-type: none"> <li>• Poly Carbonate/ Aluminium Construction with IP-66</li> <li>• Having sun-Shield in-built</li> <li>• Polycarbonate bird control spike</li> <li>• Including pole mount/wall mount accessories , Power and data cables</li> <li>• Anti-Vandalism rating -IK 10</li> </ul>	
42.	Accuracy	Camera should provide clear image of license plate along with recognized license plate no. and capture time. ANPR system has detection rate of minimum 90% ANPR system should have minimum accuracy of 85% for standard number plates and over accuracy in day time should be 70% and night 60%	
43.	Accessories	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets, Connector kit, screws etc.	
44.	Firmware	All firmware updates to be provided by SI during project period	
45.	Warranty	5 Years Comprehensive OEM Warranty	

**ITEM NO 62 : Network Video Recorder with 8 ports**

S. No.	Features	Description of Requirement	Compliance (Yes/No)
37.	Make		
38.	Model		
39.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
40.	<b>VIDEO</b>		
41.	Video Inputs	8 IP Cameras with min. 1080p	
42.	Camera Support	ONVIF Compliant	
43.	Video Output	1 HDMI,1 VGA OUT	
44.	Display Resolution	Min. 1920×1080,1600×1200,1280×720	
45.	Display Speed	8 channel real-time live	
46.	Digital Zoom	Yes	
47.	<b>RECORDING</b>		
48.	Video Compression	H.264, H.264+/H.265	
49.	Throughput	Incoming: Min. 80 Mbps Outgoing: Min. 80 Mbps	
50.	Recording Resolutions	1920x1080, 1280x720	
51.	Trigger events	Alarm in, Audio detection, Motion Detection, Trip-zone, Tampering, Video loss	
52.	<b>PLAYBACK</b>		
53.	Performance	Up to 8 channel synchronous playback	
54.	Digital Zoom	Yes	
55.	<b>STORAGE</b>		
56.	Internal	SATA HDD x 2(supplied with 2x4TB HDD)	
57.	External	Min 1 eSATA port (Up to 3TB capacity for each HDD)	
58.	<b>NETWORK</b>		
59.	Connection	8 x RJ-45 independent 100 Mbps PoE interface	
60.	Internet protocol Support	IPv4 and IPv6	
61.	Remote Data Export	Clip Copy, AVI, JPG	
62.	<b>AUDIO</b>		
63.	Audio Communication	Two way	
64.	Audio In/out	Local (NVR): 1 RCA/ 1RCA+1 HDMI (IP Camera: 8 )	
65.	Audio Compression Support	Yes	
66.	<b>PORTS</b>		
67.	Alarm In	Local (NVR): 4TTL	
68.	Alarm out	Local (NVR): 1 Relay out/IP camera	
69.	Serial Interface	RS232 (Terminal block)/ RS485 (Terminal block)	
70.	USB	Min. USB 2.0/3.0 x2	
71.	<b>GENERAL</b>		
72.	Certification	FCC,UL,CE	
73.	Chassis	Rack mountable	
74.	Warranty	5 Years Comprehensive OEM/Bidder Warranty	

**ITEM NO 63 : Network Video Recorder with 16 ports**

S. No.	Features	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Integration with existing VMS	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher	
4.	<b>VIDEO</b>		
5.	Video Inputs	16 IP Cameras with min.1080p	
6.	Camera Support	ONVIF Compliant	
7.	Video Output	1 HDMI,1 VGA OUT	
8.	Display Resolution	Min. 1920×1080,1600×1200,1280×720	
9.	Display Speed	16 channel real-time live	
10.	Digital Zoom	Yes	
11.	<b>RECORDING</b>		
12.	Video Compression	H.264, H.264+/H.265	
13.	Throughput	Min. 100 Mbps	
14.	Recording Resolutions	1920x1080, 1280x720, 704x480, 352x240	
15.	Trigger events	Alarm in, Audio detection, Motion Detection, Trip-zone, Tampering, Video loss	
16.	<b>PLAYBACK</b>		
17.	Performance	Up to 16 channel synchronous playback	
18.	Digital Zoom	Yes	
19.	<b>STORAGE</b>		
20.	Internal	SATA HDD x 4 (supplied with 2x4TB HDD)	
21.	External	Min 1 eSATA port (Up to 3TB capacity for each HDD)	
22.	<b>NETWORK</b>		
23.	Connection	16 x RJ-45 independent 100 Mbps PoE interface	
24.	Internet protocol Support	IPv4 and IPv6	
25.	Remote Data Export	Clip Copy, AVI, JPG	
26.	<b>AUDIO</b>		
27.	Audio Communication	Two way	
28.	Audio In/out	Local (NVR): 1 RCA/ 1RCA+1 HDMI (IP Camera: 16 )	
29.	Audio Compression Support	Yes	
30.	<b>PORTS</b>		
31.	Alarm In	Local (NVR): 4TTL	
32.	Alarm out	Local (NVR): 1 Relay out/IP camera	
33.	Serial Interface	RS232 (Terminal block)/ RS485 (Terminal block)	
34.	USB	Min. USB 2.0/3.0 x2	
35.	<b>GENERAL</b>		
36.	Certification	FCC,UL,CE	
37.	Chassis	Rack mountable	
38.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 64: Access Switch (4 port) with PoE**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Type	Managed Outdoor Industrial grade switch	
4.	Total Ports	4 Ethernet 10/100 ports and 2 dual-purpose uplinks (each dual-purpose uplink port has 1 10/100/1000 Ethernet port and 1 SFP-based Gigabit Ethernet port with single mode transceiver, 1 port active)	
5.	Ring Support	Switch Should support the Ring connectivity in uplink port (IEEE802.17/Equivalent), LLDP/Equivalent, UDLD/Equivalent	
6.	PoE Standard	IEEE 802.3at on each 10/100 ports or better POE Budget : min. 120w	
7.	PoE Power per port	Sufficient to operate the CCTV cameras connected	
8.	Protocols	<ul style="list-style-type: none"> <li>• Support 802.1Q VLAN</li> <li>• HTTPS/SSH</li> <li>• DHCP support</li> <li>• SNMP Management</li> <li>• IGMP Support</li> <li>• IPv6 protocol support</li> </ul>	
9.	Multi Cast Support	MLD snooping (v1 and v2) and IGMP ( v2 and v3)	
10.	Topology Selection	Bidder has to decide switch model type, be it L2 or L3 as per their design principle. However, bidder has to make sure that spanning tree related loops are prevented at each and every layer.	
11.	Security Features	<ul style="list-style-type: none"> <li>• DHCP Snooping</li> <li>• Dynamic ARP Inspection</li> <li>• IP Source Guard</li> <li>• ARP Snooping/Spoofing</li> <li>• Access Control List</li> </ul>	
12.	Remote Management	Shall Support remote management through SNMP traps	
13.	Access Control	<ul style="list-style-type: none"> <li>• Support port security</li> <li>• Support 802.1x (Port based network access control).</li> <li>• Support for MAC filtering.</li> </ul>	
14.	Industrial Rating	IP 30 and NEMA TS-2	
15.	EN/IEC Standard Ratings	EN/IEC 60068-2-27,ESD EN/IEC 61000-4-2, EN/IEC 61000-4-3, EN/IEC 61000-4-4, EN/IEC 61000-4-6, EN/IEC 61000-4-8, EN/IEC 60068-2-6,RoHS and EMC as FCC Part 15, Class A.	
16.	Surge Protection	Yes, EN/IEC 61000-4-5	
17.	Operating Temperature	-10 to 70 degrees C or better	
18.	Certification to be provided by bidder	UL,CE and NEMA TS-2	



19.	Cables	All necessary data and power cables and industrial grade power adapter to be provided	
20.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 65: Point-to-Point Radio**

S. No.	Description	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	Frequency Must operate in Unlicensed band 5.8Ghz as per WPC norms	
4.	Must support nLOS deployment	
5.	Should support IPv4 & IPv6 from day one	
6.	Modulation 2x2 MIMO-OFDM, BPSK, QPSK, 16QAM, 64QAM with Error Correction Method FEC 1/2,2/3,3/4and 5/6	
7.	System Should support adaptive modulation	
8.	Channel Bandwidth : 10/20/40MHz user configurable	
9.	Tx Power as per WPC guidelines	
10.	System should be based on Time Division Duplex Technology TDD	
11.	System should support Spectral Efficiency to support throughput as per Site requirements	
12.	System should support Automatic channel selection.	
13.	System should support Transmit Power Control - within allowable EIRP as WPC guidelines.	
14.	System should have Built-in Spectrum Scanner/Spectrum Analyzer Link-oriented Spectrum Analyzer to show the results of both sites	
15.	System should identify and take action to avoid other radio transmissions that are considered primary-use or mission-critical as per WPC norms	
16.	System should support 200 Mbps Aggregate throughput	
17.	PTP solution with Integrated/ External antenna for link distance up to 5KM to be provided	
18.	System should have LAN Interface 10/100/1000 BaseT interface with Auto negotiation (IEEE802.3)	
19.	Framing/Coding IEEE802.3/U	
20.	Maximum Transmission Unit (MTU): supports an MTU of 1700 Bytes or higher to allow VLAN tagged frames to be transparently passed across the system.	
21.	System Should support Round trip delays as 8 ms	
22.	System Should have maximum Power consumption of 25 W per unit and PoE supported	
23.	Collocated Hub Radios should support Ethernet/GPS based synchronization of Tx & Rx timing to eliminate interference between multiple radios collocated at the hub site	
24.	Should support synchronization of the transmission timing of different Hub-Sites to the same clock source in order to eliminate mutual interference between multiple sites	
25.	Radios must support QoS (4 Levels of Queues) - Real time, near real time, Controlled load and Best effort	

26.	Radios should support Asymmetrical Bandwidth (Uplink/DownLink)	
27.	All necessary accessories/devices/software to support functioning of the device shall be provided by bidder	
28.	Operating temperature for ODUs:-10 deg to +60 deg. Celsius	
29.	IP Protection: IP 66 or better	
30.	Quoted Radio should not be based on "WiFi CSMA CA based 802.11a/b/g/n/ac standards	
31.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 66: Point-to-Multi-Point Radio**

S. No.	Description	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	Frequency Range: 5.8Ghz ISM un licensed free band.	
4.	The offered radio systems should be of IPv4 & IPv6 enabled from day one	
5.	System must support interference mitigation technique to mitigate the co channel interference	
6.	Network Interface should support 10/1000 Mbps Port to enable asymmetric traffic	
7.	VLAN Support: It should be based on IEEE 802.1Q, 802.1P and QinQ	
8.	Quality of Service: System should support QoS based on 4 Queue according to 802.1p/Diffserve	
9.	System should support min. 250 Mbps Aggregate throughput with single sector base station	
10.	Modulation technology: OFDM – MIMO 2x2 and Diversity	
11.	It shall be carrier type point to multi point broad band wireless access radio system.	
12.	Channel Bandwidth : 10/20/40MHz user configurable	
13.	Max output power (at antenna port) Base station: + 18 dBm	
14.	Built in Spectrum analyzer and radio should have site management and link management facility (software) for initial configuration, installation and maintenance	
15.	System must provide integrated/external Antenna as per target coverage area	
16.	Radio should cover distance of 10 Kms or better	
17.	Should support SNMPv3 & Telnet.	
18.	Operating temperature for ODUs:-10 deg to +60 deg. Celsius	
19.	System should support dual stack IPv4 & IPv6 IP Address	
20.	Should control CPE for assured bandwidth Management	
21.	System should support Asymmetrical Bandwidth (Uplink/DownLink)	
22.	Frequency Range compliance in ETA certificate- 5.825 to 5.875GHz.	

	Base station must have mandatory ETA certificate as per WPC under GSR 38 (E) for outdoor deployment	
23.	Collocated Hub Radios should support Ethernet/GPS based synchronization of Tx & Rx timing to eliminate interference between multiple radios collocated at the hub site	
24.	Should support synchronization of the transmission timing of different Hub-Sites to the same clock source in order to eliminate mutual interference between multiple sites	
25.	All necessary accessories/devices/software to support functioning of the device shall be provided by bidder	
26.	IP Protection: IP 66 or better	
27.	Quoted Radio should not be based on "WiFi CSMA CA based 802.11a/b/g/n/ac standards	
28.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 67 : CPE for Radio**

S. No.	Description	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	System consisting of outdoor and indoor equipment, antenna, cables, system software and all other hardware and software required for operation, monitoring & configuration of the link.	
4.	It shall be carrier type point to multi point broadband wireless access radio system.	
5.	Frequency Range: 5.8GHz ISM un licensed free band	
6.	Channel Bandwidth : 10/20/40MHz user configurable	
7.	Max output power (at antenna port) : + 18 dBm	
8.	Modulation technology: OFDM – MIMO 2 x 2 and Diversity	
9.	Frequency Range 5.825 to 5.875GHz Base station must have mandatory ETA certificate as per WPC under GSR 38 (E) for outdoor deployment	
10.	It should support integrated/external antenna for target coverage area	
11.	Radio should cover distance of 10 Kms or better	
12.	Throughput: Up to 50 Mbps per CPE	
13.	Should be IPv6 & IPv4 enabled from day one	
14.	Should have interface 10/100 Base T	
15.	Operating temperature for ODUs:-10 deg to +60 deg. Celsius	
16.	CPE Should have maximum Power consumption of 20 W per unit and PoE supported	
17.	IP Protection: IP 66 or better	
18.	Quoted Radio should not be based on "WiFi CSMA CA based 802.11a/b/g/n/ac standards	
19.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 68 : Rugged Tablet- Windows-7 inch**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Item Type	Rugged Tablet	
4.	Integration with existing VMS and Dial 100	SI has to ensure integration with existing VMS i.e. Nicevision Net 3.1 or higher and Dial 100 i.e. Intergraph	
5.	Ruggedness Standards	MIL –STD810G & IP 65 tested design	
6.	CPU	Intel® Dual Core Processor, 1.1GHz with 4MB Cache or higher	
7.	Operating System	Windows 10 pro and latest	
8.	Memory	Min. 4 GB RAM	
9.	Storage	Min. 128 GB internal storage required Expandable via Micro SD slot	
10.	Display	Min. 7" touch display, Sunlight readable with stylus pen	
11.	Screen Auto Rotate	Yes	
12.	Input	Soft Keyboard, Stylus Pen, Touchscreen with multitouch	
13.	Display Resolution	1280 x 720 or higher	
14.	Network Interface	Wireless 802.11 b/g/n or 802.11ac Bluetooth 4.0 or higher	
15.	Internet protocol Support	IPv4 and IPv6	
16.	Camera	Front-facing camera -Yes Min. 5 MP rear-facing camera with flash	
17.	Control Switch	1 x Power on/off button	
18.	Speaker & Microphone	Integrated Speaker and microphone	
19.	Sensors	<ul style="list-style-type: none"> <li>• Ambient Light</li> <li>• Digital Compass</li> <li>• Gyro</li> <li>• Acceleration</li> </ul>	
20.	I/O Ports	Min. 1 x USB 2.0 or higher Min. 1 x Micro SD Slot Min. 1 x SIM/Micro SIM (4G LTE compatible with bands available in India) Min. 1 x audio jack for Headphone/speaker Min. 1 x DC power	
21.	GPS antenna	Required	
22.	Battery Pack	Lithium-Ion battery of min. 6800 mAH	
23.	Waterproof and dustproof	Water and dust resistance	
24.	Shockproof	<ul style="list-style-type: none"> <li>• Resists drops from min. 4 feet</li> <li>• Shocks, vibrations, thermal shocks and temperature extremes</li> </ul>	

		<ul style="list-style-type: none"> <li>To be used in moving vehicles</li> </ul>	
25.	Accessories	<ul style="list-style-type: none"> <li>Handle/shoulder strap with Pen</li> <li>Screen Protector</li> <li>Charging Adapter</li> </ul>	
26.	Vehicle Dock	<ul style="list-style-type: none"> <li>Rugged Construction</li> <li>OEM Certified</li> <li>2 USB and minimum 1 LAN Port</li> <li>Car Charging Slot</li> <li>OEM Certified DC Car Charger</li> </ul>	
27.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No. 69: Rugged Tablet- Windows-10 inch**

S. No.	Item	Description of Requirement	Compliance (Yes/No)
1.	<b>Make</b>		
2.	<b>Model</b>		
3.	Item Type	Rugged Tablet	
4.	Integration with existing VMS and Dial 100	SI has to ensure integration with existing VMS i.e., Nicevision Net 3.1 or higher and Dial 100 i.e. Intergraph	
5.	Ruggedness Standards	MIL –STD810G & IP 65 tested design	
6.	CPU	Intel® Core i5 with 3MB Cache (up to 2.3GHz) or higher	
7.	Operating System	Windows 10 pro and latest	
8.	Memory	Min. 8 GB RAM	
9.	Storage	Min. 256 GB internal storage required Expandable via Micro SD slot	
10.	Display	Min. 10" touch display, Sunlight readable with stylus pen	
11.	Screen Auto Rotate	Yes	
12.	Input	Soft Keyboard, Stylus Pen, Touchscreen with multitouch	
13.	Display Resolution	1920x 1200 or higher	
14.	Network Interface	Wireless 802.11 b/g/n or 802.11ac Bluetooth 4.0 or higher	
15.	Internet protocol Support	IPv4 and IPv6	
16.	Camera	Front-facing camera -Yes Min. 5 MP rear-facing camera with flash	
17.	Control Switch	1 x Power on/off button	
18.	Speaker & Microphone	Integrated Speaker and microphone	
19.	Sensors	<ul style="list-style-type: none"> <li>Ambient Light</li> <li>Digital Compass</li> <li>Gyro</li> <li>Acceleration</li> </ul>	

20.	I/O Ports	Min. 1 x USB 2.0 or higher Min. 1 x Micro SD Slot Min. 1 x SIM/Micro SIM (4G LTE compatible with bands available in India) Min. 1 x audio jack for Headphone/speaker Min. 1 x DC power Min. 1x HDMI	
21.	Bios Security	Yes	
22.	GPS antenna	Required	
23.	Battery Pack	Lithium-Ion battery of min. 8700 mAH	
24.	Waterproof and dustproof	Water and dust resistance	
25.	Shockproof	<ul style="list-style-type: none"> <li>• Resists drops from min. 4 feet</li> <li>• Shocks, vibrations, thermal shocks and temperature extremes</li> <li>• To be used in moving vehicles</li> </ul>	
26.	Accessories	<ul style="list-style-type: none"> <li>• Handle/shoulder strap with Pen</li> <li>• Screen Protector</li> <li>• Charging Adapter</li> </ul>	
27.	Vehicle Dock	<ul style="list-style-type: none"> <li>• Rugged Construction</li> <li>• OEM Certified</li> <li>• 2 USB and minimum 1 LAN Port</li> <li>• Car Charging Slot</li> <li>• OEM Certified DC Car Charger</li> </ul>	
28.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 70 : ITMS sensor for Classification, Counting etc. using Laser and Radar**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make:		
2.	Model:		
3.	Integration with existing VMS/CCC	SI has to ensure integration with existing VMS/CCC software	
4.	Day and Night	System should work in day and night condition	
5.	Hybrid Technology	Microwave Doppler radar & laser scanner	
6.	Main features	<ul style="list-style-type: none"> <li>• Counting and classification of vehicles (minimum 8 class) in heavy traffic roads and with the possibility of formation of queues or in the presence of slow-moving traffic during peak hours.</li> <li>• Detection and classification of vehicles in the areas of toll collection.</li> <li>• Speed detection and classification of vehicles for various ITMS applications</li> <li>• Interactive map/synoptic allowing easy and quick monitoring of each position</li> <li>• Visualization of summary and detailed information from traffic monitoring stations</li> </ul>	

		<ul style="list-style-type: none"> <li>Visualization of alerts and anomalies reported by monitoring sub-systems</li> <li>Visualization of real time data from traffic monitoring stations/sensors</li> <li>Access to historic traffic data and statistics</li> <li>Option of integration to VMS</li> <li>3 D vehicle images, System should provide Speed, Length, Height, Class, Slowdown and queues.</li> </ul>	
7.	Precision	Should work in complex traffic conditions and stop and go traffic also. Maximum error permissible $\pm 5\%$ in standard conditions	
8.	Lane Identification	905 nm , non visible with precise speed from radar	
9.	Scan angle	96 degree	
10.	Power consumption	Less than 5W	
11.	Processing and Storage	The sensor should have inbuilt processing unit and local storage	
12.	CE & RoHS Compliance	CE and RoHS compliant certificate with third party speed test report	
13.	IP 65 Ratings	Test reports for IP 65 This is to support harsh rainy season and dust environment in Rajasthan.	
14.	Warranty	5 Years Comprehensive OEM Warranty	

**ITEM NO 71 : Emergency Call Box**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Integration with existing VMS/CCC	SI has to ensure integration with existing VMS/CCC software	
4.	General	The emergency box (or panic button) will enable citizens to establish a two way audio (microphone and speaker) & camera (video camera and a video screen) communication link with Police (or / and with Authority's Disaster Management Cell or Command and Communications Center) through a press of a button.	
5.	CCTV Camera	hall have built in camera with wide angle 1/2.7" CMOS progressive SCAN sensor based, 1.3MP camera, 25fps recording and able to view person who is using emergency call box Compression Ratio: H.264/H.265	
6.	Speaker and Microphone	<ul style="list-style-type: none"> <li>Shall have built in high sensitive omnidirectional audio i/p which is capable of sensing audio upto a distance of 5m and built in 3W speaker</li> </ul>	

		<ul style="list-style-type: none"> <li>Shall have G.711U/G.726 audio compression with intelligent noise suppression technique and echo cancellation technique</li> </ul>	
7.	Call Button	Shall have 2 physical buttons out of which 1 should be for emergency calling and 2nd should be reserved for project specific requirement	
8.	Alarm	Shall have anti dismantle detection function, which allows to generate alarm to central VMS whenever the device is dismantled from its installed area or the mount	
9.	Interface	<p>1 RS 485, ALARM I/O - 2/2, Shall have inbuilt SD card slot supporting min 64 GB, Min. Class 6 or higher, Card to be included</p> <p>In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the network storage recording such that no manual intervention is required to transfer the SD card based recordings to network storage.</p>	
10.	Connectivity	Shall have built in 4G module, 10M/100M self-adaptive Ethernet interface, TCP/IP, SNMP, RTSP and SIP/IOIP protocol should be supported	
11.	Power supply and operating temperature	Shall work on 12VDC supply consuming not more than 24W, operating temprature - -10deg C to 60deg C, shall be 2KV lightening proof	
12.	Casing	Shall be IP66 protected and IK08 vandal proof	
13.	Mount type	Shall be a wall mount device	
14.	Accessories	All required accessories at site for installation of emergency call box to be provided like Pole Mount ,Wall mount, Corner brackets, Connector kit, screws etc.	
15.	License	SI has to provide required software licenses	
16.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 72 : Split Air Conditioner (1.5 Ton)**

S.No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Tonnage	1.5 Ton	
4.	Cooling Capacity	18000 Btu/hr	
5.	Compressor Type	Rotary/Tropical	
6.	EER	3.5	
7.	Noise Level (Indoor)	<45db	
8.	Features	Auto Air Swing, Speed Setting, Auto Restart, Sleep Mode, On/off Timer, Dehumidification, Fuzzy logic	



9.	Remote including battery	Yes	
10.	Bacteria Filter	Yes	
11.	Condenser	Copper coils	
12.	Refrigerant	R-410A/R 32	
13.	Power	220-240 / 1 / 50	
14.	Stabilizer	Stabilizer having ISI quality certification and rating that matches with the proper rating of the A/C unit to be provided with AC	
15.	Accessories	All the accessories like wall mount stand, copper tube, plug, Industrial box, MCB etc. required at site to be provided	
16.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 73 : Laying of CAT 6 Cable 4 pair Outdoor double jacket**

S. No.	Description	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	The cable should have 4 pair construction with round sheath and proper construction to avoid the Alien crosstalk	
4.	Inner jacket Type- Low smoke Zero halogen	
5.	Outdoor Jacket Type- UV Resistant PVC Compound	
6.	Electrical performance guaranteed to meet or exceed the channel specifications of Amendment 1 to ISO/IEC 1180:2001 Class EA, and ANSI/TIA-568-C.2 Category 6 up to 500 MHz	
7.	The OEM should have published performance guidelines and installation instructions	

**ITEM NO 74 : Pole (Height-8mtrs above cement concrete foundation)**

S. No.	Description	Compliance (Yes/No)
1.	Pole shall have options to host and install security cameras, sensors and detectors.	
2.	Pole shall be able to host atleast 4 cameras/sensors on top having a total weight upto maximum 30 Kg.	
3.	Pole shall be able to host solar panel (vertically mounted) having total weight maximum of 90 Kg.	
4.	Designed in accordance with ISS publication: Indian Standard specification for Structure Support Highway Signs, Luminaries and Traffic signals.	
5.	Suitable size Outdoor Junction Box shall be provided for electric meter to be installed at pole	
6.	AC/DC converter shall be provided with pole.	
7.	Power sockets (5/15A) as per requirement, subject to minimum of two sockets with surge protection and power on/off led indicator.	
8.	Suitable size earth termination shall be provided to connect with the proposed earth pit .Pipe earthing of each pole as per IS Standard.	

	Pipe Earthing as per IS:3043 with perforated 3.0 Mtr. Long, 40 mm dia. ' B ' class G.I. Pipe including all accessories like nut, bolts, reducer, nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size 300mm x 300 mm and embodying the pipe complete with alternate layers salt and coke/ charcoal, testing of earth resistance as required. The Pipe earth electrode should be connected to pole mounting the required camera with 8SWG GI wire.																	
9.	Pole shall have Camouflaged Junction Box with locking arrangement																	
10.	Network Cable: Supply and installation of CAT 6 cable as per site requirement (Approx. 10m) with following specifications: <ul style="list-style-type: none"> <li>• The cable should have 4 pair construction with round sheath and proper construction to avoid the Alien crosstalk</li> <li>• Inner jacket Type- Low smoke Zero halogen</li> <li>• Outdoor Jacket Type- UV Resistant PVC Compound</li> <li>• Electrical performance guaranteed to meet or exceed the channel specifications of Amendment 1 to ISO/IEC 1180:2001 Class EA, and ANSI/TIA-568-C.2 Category 6 up to 500 MHz</li> </ul>																	
11.	Electric Cable: Supply and installation of copper electric cable as per site requirement (Approx. 20m) with following specification: <ul style="list-style-type: none"> <li>• Material: Copper</li> <li>• No. of cores: 4</li> <li>• Area (Sq. mm.):4</li> </ul>																	
12.	Optical Fibre: Supply and installation (including splicing and termination at both ends) of Single core and single mode optical fibre as per site requirement (Approx. 20m) between last mile of connectivity provided by GoR and the Pole on which camera is installed.																	
13.	Supply and erection of GI Octagonal of following length and dimension as per table given below with base plate on the cement concrete foundation of M-20 grade (1:1.5:3) with the help of anchor bolts of grade 6.8 (IS: 1367 P III ). <table border="1" data-bbox="422 1288 1136 1585"> <tr> <td>Top Dia. (In mm)</td> <td>70</td> </tr> <tr> <td>Bottom Dia. (In mm)</td> <td>135</td> </tr> <tr> <td>Sheet Thickness (In mm)</td> <td>5</td> </tr> <tr> <td>Base Plate</td> <td>250x250x16</td> </tr> <tr> <td>Foundation Bolt Size No. x Dia. (In mm)</td> <td>4x20</td> </tr> <tr> <td>PCD in mm</td> <td>210</td> </tr> <tr> <td>Bolt Length (in mm)</td> <td>750</td> </tr> <tr> <td>Foundation Size in mm</td> <td>450x450x1550</td> </tr> </table>	Top Dia. (In mm)	70	Bottom Dia. (In mm)	135	Sheet Thickness (In mm)	5	Base Plate	250x250x16	Foundation Bolt Size No. x Dia. (In mm)	4x20	PCD in mm	210	Bolt Length (in mm)	750	Foundation Size in mm	450x450x1550	
Top Dia. (In mm)	70																	
Bottom Dia. (In mm)	135																	
Sheet Thickness (In mm)	5																	
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Foundation Bolt Size No. x Dia. (In mm)	4x20																	
PCD in mm	210																	
Bolt Length (in mm)	750																	
Foundation Size in mm	450x450x1550																	
14.	The pole shall have a weatherproof flush door and locking arrangements.																	
15.	The complete work shall be supervised and certified by the manufacturers for satisfactory supply, erection, testing and commissioning.																	
16.	Octagonal MS Poles made of S-355JO grade steel sheet , folded lengthwise to obtained Octagonal shape, having single longitudinal seam weld and hot dipped galvanised internally & externally in accordance with IS 2629 and ISO 1461																	
17.	Supply, Erection and Fixing of hot dipped galvanised Overhang (48.3 X 3.25 mm) with cap (400 x 88.9 / 114.3 x 3.25 mm) over the existing poles Options: <ul style="list-style-type: none"> <li>• Single Arm Overhang</li> <li>• Double Arm Overhang</li> </ul>																	
18.	Warranty: 5 years Comprehensive Bidder/OEM Warranty																	

**ITEM NO 75: Junction BOX**

S. No.	Description	Compliance (Yes/No)
1.	Outdoor wall mount/Pole Mount Enclosure of size 500H x 400W x 250D with all round welded construction with trough design to meet an IP rating of IP55, Front panel with screw with PU Foam in place gasketing, bottom with out gland plate with 4 holes at the rear wall for wall mounting provision with 1 number of fixed mounting plate at the inner rear wall.(with earth Stud). There should be enough space inside enclosure to hold minimum 1 no. of 4 port Access Switch, PSU, Fibre and Power termination arrangement etc. as per scope of work.	
2.	Wall mounting Bracket (Set of 4) or Pole	
3.	Din Rail 500MM Long	
4.	SS Cable Gland M25	
5.	SS Cable Gland M50	
6.	DIN Rail Mount MCB As required	
7.	Fibre Termination Arrangement	
8.	Power Termination Arrangement with Surge Protector	
9.	Warranty: 5 years Comprehensive Bidder/OEM Warranty	

**ITEM NO 76 : Speed Enforcement System with camera for Intelligent Traffic Mgmt. System**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Day and Night	System should work in day and night condition	
4.	Laser Class	Speed should be measured using eye safe laser-class 1 (security class LASER (IEC/EN 60825)	
5.	Speed Limit	Speed limits to be measured 250km/hr	
6.	Precision	Maximum error permissible $\pm 2\%$	
7.	Lane Identification	System should be able to provide specific lane of the vehicle when speeding System should provide clear megapixel image with automatic ANPR data with speed in image	
8.	Color Image	System should provide color image at least in daytime	
9.	Camera Unit	<ul style="list-style-type: none"> <li>The system can be composed of one or more cameras; to allow the perfect recognition of license plates from police officers</li> <li>The system must ensure that in violations images the car license plate has a width of at least 200 pixels. (2 Megapixel or higher per lane calculation)</li> <li>Cameras must be Day night and must have CMOS with 1/3 sensor (or greater), varifocal lenses, autoiris, shutter speed 1/1000 sec or better, resolution 2 Megapixel or better, temp range -5 to +60 C,</li> <li>IR Module-External IR (no flash) 40m distance at 20 degree</li> </ul>	
10.	Processor	i. Storage and Connectivity: Minimum local storage 64 Gb , with 3G module.	

		<ul style="list-style-type: none"> <li>ii. RAM Minimum 2GB RAM</li> <li>iii. User Interface: GUI for configuration and diagnostic</li> <li>iv. Encryption: Security: Standard Digital signature on each violation to assure data integrity. Strong encryption on data during local storage and data transfer to back office</li> </ul>	
11.	Certification and Approvals	<ul style="list-style-type: none"> <li>• Complete System Approval from ministry of traffic or equivalent department from respective country of origin for speed enforcement , document authenticated by Indian embassy ( to authenticate that systems are legalized and tested for infractions to avoid legal issues)</li> <li>• Speed test reports to be submitted from third party (authorized company to do so) before date of publication of tender.</li> <li>• Product should already be in use with enforcement authorities and should be in use for generating fines ( End user certificates for proper working should be submitted)</li> </ul>	
12.	CE & RoHS Compliance	CE and RoHS compliant certificate with third party speed test report	
13.	IP 66 Ratings	Test reports for IP 66 of cameras and laser should be provided. This is to support harsh rainy season and dust environment in Rajasthan.	
14.	Cables and Accessories	All required power cable, adapter, data cable and accessories at site for installation of system to be provided	
15.	Warranty	5 Years Comprehensive OEM Warranty	

**ITEM NO 77: Transceiver SFP for Single Mode fibre**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Type	Industrial Grade Transceiver for Industrial grade switch	
4.	Form Factor	Small Form Factor, Pluggable Gigabit Interface	
5.	Compatibility	Single Mode fibre Should be compatible with Access Switch quoted by SI	
6.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 78 : Pole (Height-10mtrs. above cement concrete foundation)**

S. No.	Description	Compliance (Yes/No)

1.	Make:																	
2.	Model:																	
3.	Pole shall have options to host and install security cameras, sensors and detectors.																	
4.	Pole shall be able to host at least 4 cameras/sensors on top having a total weight upto maximum 30 Kg.																	
5.	Pole shall be able to host solar panel (vertically mounted) having total weight maximum of 90 Kg.																	
6.	Designed in accordance with ISS publication: Indian Standard specification for Structure Support Highway Signs, Luminaries and Traffic signals.																	
7.	Suitable size Outdoor Junction Box shall be provided for electric meter to be installed at pole																	
8.	AC to DC converter shall be provided with pole																	
9.	Power sockets (5/15A) as per requirement, subject to minimum of two sockets.																	
10.	Suitable size earth termination shall be provided to connect with the proposed earth pit . Pipe earthing of each pole as per IS Standard. Pipe Earthing as per IS:3043 with perforated 3.0 Mtr. Long, 40 mm dia. ' B ' class G.I. Pipe including all accessories like nut, bolts, reducer, nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size 300mm x 300 mm and embodying the pipe complete with alternate layers salt and coke/ charcoal, testing of earth resistance as required. The Pipe earth electrode should be connected to pole mounting the required camera with 8SWG GI wire.																	
11.	Pole shall have Camouflaged Junction Box with locking arrangement																	
12.	Supply and erection of GI Octagonal of following length and dimension as per table given below with base plate on the cement concrete foundation of M-20 grade (1:1.5:3) with the help of anchor bolts of grade 6.8 (IS: 1367 P III ).  <table border="1" data-bbox="422 1350 1134 1648"> <tr> <td>Top Dia. (In mm)</td> <td>70</td> </tr> <tr> <td>Bottom Dia. (In mm)</td> <td>175</td> </tr> <tr> <td>Sheet Thickness (In mm)</td> <td>3</td> </tr> <tr> <td>Base Plate</td> <td>275x275x16</td> </tr> <tr> <td>Foundation Bolt Size No. x Dia. (In mm)</td> <td>4x24</td> </tr> <tr> <td>PCD in mm</td> <td>270</td> </tr> <tr> <td>Bolt Length (in mm)</td> <td>750</td> </tr> <tr> <td>Foundation Size in mm</td> <td>450x450x1900</td> </tr> </table>	Top Dia. (In mm)	70	Bottom Dia. (In mm)	175	Sheet Thickness (In mm)	3	Base Plate	275x275x16	Foundation Bolt Size No. x Dia. (In mm)	4x24	PCD in mm	270	Bolt Length (in mm)	750	Foundation Size in mm	450x450x1900	
Top Dia. (In mm)	70																	
Bottom Dia. (In mm)	175																	
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Foundation Size in mm	450x450x1900																	
13.	The pole shall have a weatherproof flush door and locking arrangements.																	
14.	The complete work shall be supervised and certified by the manufacturers for satisfactory supply, erection, testing and commissioning.																	
15.	Octagonal MS Poles made of S-355JO grade steel sheet , folded lengthwise to obtained Octagonal shape, having single longitudinal seam weld and hot dipped galvanised internally & externally in accordance with IS 2629.																	
16.	Supply, Erection and Fixing of hot dipped galvanised Overhang (48.3 X 3.25 mm) with cap (400 x 88.9 / 114.3 x 3.25 mm) over the existing poles																	

	Options: <ul style="list-style-type: none"> <li>• Single Arm Overhang</li> <li>• Double Arm Overhang</li> </ul>	
17.	Warranty: 5 years Comprehensive Bidder/OEM Warranty	

All the supplied Hardware/ Software should be Interoperable, IPv6 ready and in compliance with the policies/ guidelines issued by DIT, GoI in this regard. All the supplied Hardware/ Software should be IPv6 ready.

**ITEM NO 79 : UPS (10 KVA)**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Capacity ( In KVA/KW)	10KVA, 3-Phase Input/ 1-Phase Output, Required in Parallel mode with Inbuilt/Separate Galvanic Isolation Transformer i.e 2*10KVA Isolation Transformer can be either inbuilt/separate as per OEM design. Isolation Transformer shall be K-13 rated. The bidder shall give the details (make and model) of quoted galvanic isolation transformer which will be supplied in this tender.	
4.	Technology and Capability	I) True Online configuration with double conversion UPS with IGBT on the input and output with multiple Digital Signal Processor controlled for the following: a) Rectifier/Charger b) Battery management c) 3 Level IGBT Inverter d) Static Switch II) UPS should be designed at Rated output PF of 0.9	
5.	Input facility-Phase/Wires	400 volts AC, $\pm 15$ percent, three-phase, 5 wires 3Ph +N + PE	
6.	Nominal Input Frequency	50 Hz	
7.	Input Frequency Range	45-55 Hz	
8.	Input Power Factor	>.99 on full Load	
9.	Input Current Harmonic Distortion (THDi)	<3% on full resistive Load	
10.	Generator Compatibility	Should be compatible to be used on genset supply	
11.	Switching Technology (Inverter)	3- Level IGBT	
12.	Backfeed Protection	Internal, Standard	
13.	Battery Protection	Battery Protection through Breakers	

14.	Nominal Output voltage	220/ 230/ 240VAC (Selectable)	
15.	Output Voltage tolerance	+ /- 1%	
16.	Nominal Output Frequency	50 Hz	
17.	Output Frequency Regulation	+/- 0.05 Hz free run	
18.	Output Wave Form	Pure sine Wave	
19.	Output Voltage Distortion (THDu)	<= 3% for linear load	
20.	Crest Factor	3:1 On Full Load ( Minimum)	
21.	Transfer Time (Mode of operation)	Nil from mains mode to Battery Mode; Nil from Battery Mode to Mains mode	
22.	Transfer Time (Inverter to Bypass/Bypass to inverter)	< 2ms (Synchronized Mode)	
23.	Automatic & Bi-Directional static by-pass (In-built)	Should be provided to take care of uninterrupted transfer of load from inverter to bypass (under overload/fault conditions) & automatic retransfer from bypass to inverter (on removal of overload / fault conditions)	
24.	Overall Efficiency (Ac to Ac)-Online (Double Conversion)	>94% (On Full R Load) with Isolation & >98% in smart Eco Mode	
25.	Display Measurements for:	Input : Voltage & current per Phase ; DC Bus Voltage; Output: Voltage, Current, KVA, KW, Bypass Voltage & Load % per Phase	
26.	Battery Test	UPS should do the Battery Test once in 90 days automatically	
27.	Display	Touch Screen/LED Bar Status/Live Synoptic view for real time	
28.	Audible Alarms	Acoustic alarms and warnings	
29.	Backup Required	60Mins on each UPS	
30.	Battery Bank Voltage	As per OEM Design	
31.	Battery Bank VAH (Vendor to include battery with tender)	Min 18720 VAH	
32.	Batteries Type	Sealed Maintenance Free (SMF)-12V Cells	
33.	Battery Makes	Amara Raja/Exide/Rocket	
34.	Battery recharge time (After complete discharge) to 90% capacity	8-10 hours	
35.	Serial Communication RS232 Port (Option of USB Port should be available)	RS 232 Port should be provided as standard in the UPS	

36.	REPO (Remote Emergency Power OFF)/ROO (Remote On-Off) Port	Should be provided as standard in the UPS	
37.	Remote Monitoring Facility	SNMP card should be provided with necessary software for remote monitoring	
38.	Communication Port	RS232/ ModBus	
39.	Type Of Cooling	Forced Air	
40.	Noise Level	< 60 dbA at 1 meter distance	
41.	Type of UPS	UPS should be Floor/Tower Mounted with Inbuilt/separate Isolation Transformer	
42.	Product Certificates	UPS should be BIS/CE/Equivalent approved	
43.	Warranty	5 Years Comprehensive onsite OEM Warranty	

**ITEM NO 80 : CDR Analysis**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	General	Software shall be capable of call records investigation, analyze call records and get various type of customized reports as required by police department in less time.	
4.	Various File Formats CDR	Software should be able to upload different CDRs like Target No. CDR, IMEI CDR, International Gateway CDR, Tower CDR etc. from Excel, Txt, CSV, and HTML format and all other common formats. Software shall be able to define, modify and update import formats for data across telecom service providers.	
5.	Cell Id's database	<ul style="list-style-type: none"> <li>Automatic detection of Cell Id's</li> <li>Maintain entire Cell ID of all circles and providers for 2G, 3G, 4G etc.</li> <li>Keep updating database every Monthly.</li> </ul>	
6.	CDR/SDR/Cell IDs/ISD Calls Data Importing	<ul style="list-style-type: none"> <li>Software to ensure the automated acquisition and processes individual files or it should be done in batch mode and Parallel.</li> <li>Auto Selection Circle and Network while import.</li> <li>Auto Detect Roaming Circle Management.</li> </ul>	
7.	Data Export	<ul style="list-style-type: none"> <li>Software should be capable to export with different formats like Excel, PDF, Word, HTML, CSV, Text etc.</li> <li>Direct Printable Reports with Header-Footer.</li> <li>Backup Particular Investigation from 1 System to Restore into another.</li> </ul>	
8.	Comprehensive Search	Comprehensive search should be provided on thousands of calls without manually typing the rules on multiple criteria's like Time period, Date/time, Target number, Case name, SMS, IMEI, IMSI, Duration, Call Type, Call Direction etc.	



		After Search, Result file treated as separate file and all functionality shall work on search file.	
9.	Filter Features	Software shall be capable of <ul style="list-style-type: none"> <li>• Filter over Filter</li> <li>• Customizable inbuilt filters</li> <li>• Create and manage filter files</li> <li>• Delete all filter files on single click</li> </ul>	
10.	Social Network Searching	The system should also be able to search in social networking sites like Google, Facebook, True Caller, Twitter, LinkedIn, Google+ etc.	
11.	CDR Analysis	Software shall have following features: <p>A. Frequency Analysis Software shall be capable to perform frequency analysis on atleast following parameters:</p> <ul style="list-style-type: none"> <li>• Target numbers</li> <li>• IMEI</li> <li>• Cell-ID</li> <li>• Date</li> </ul> <p>B. Pattern Analysis Software shall be capable to perform pattern analysis on atleast following parameters:</p> <ul style="list-style-type: none"> <li>• Single Number</li> <li>• Multiple Numbers</li> <li>• An IMEI</li> <li>• Multiple IMEI's</li> <li>• Tower groups</li> </ul> <p>C. Split Analysis</p> <p>D. Geo-fencing</p> <p>E. Link Analysis</p> <p>F. Timeline summary Analysis</p> <ul style="list-style-type: none"> <li>• Call Details <ul style="list-style-type: none"> <li>○ Maximum Circle Calls with Total Call-In, Total Call-Out, Total Sms-In, Total Sms-Out and Roaming Call Details.</li> <li>○ Daily First and Last Calls Details with Cell-ID Address.</li> <li>○ Daily First and Last Location with Call Time and Cell-ID Address.</li> </ul> </li> <li>• Ability to filter out the calls only from those areas which are marked on the map.</li> <li>• Time based search, should be able to identify the day and night calls.</li> <li>• Calls summary based on the calls wherein three or more persons are communicating on a single call.</li> <li>• Identification of selected person's geographical reach based on the calls made or received by him.</li> <li>• Graphical representation of statistical data using 2d and 3d pie charts, bar graph, etc.</li> </ul>	

		<ul style="list-style-type: none"> <li>• All the query result should be displayed in a Data Grid. Users should be able to group data by dragging a column header and dropping it in the group area above the grid</li> <li>• Users should be able to rearrange the grouping headers in the group area (again by dragging and dropping).</li> <li>• Data Grid should also allow Users to filter data by applying filter patterns or their own filter criteria, hiding the records that do not match the filter thus accessing only the data they need in an Excel-like fashion.</li> </ul> <p>G. CDR can be analysed on following parameters:</p> <ul style="list-style-type: none"> <li>• Identifying common callers with details</li> <li>• Identifying common locations</li> <li>• Identifying frequent locations</li> <li>• Identifying IMEI's and IMSI's used</li> <li>• Identifying usage of each handset used by a number</li> <li>• Plotting route/call locations on google maps</li> <li>• Identifying moving call of a number</li> <li>• Roaming summary of a number</li> </ul> <p>H. IMEI Analysis</p> <ul style="list-style-type: none"> <li>• IMEIs used by multiple numbers</li> </ul> <p>I. Multiple IMEI Analysis</p> <ul style="list-style-type: none"> <li>• Numbers used by multiple IMEI's</li> </ul> <p>J. Bulk/Dump/Tower Data Analysis</p> <ul style="list-style-type: none"> <li>• Single Tower Data Analysis</li> <li>• The Cell Nos. which have maximum calls/ minimum calls</li> <li>• Picking up of desired CDRs from Tower data base for further analysis</li> <li>• Common Nos. (called/ calling) among the cell Nos. present under the Tower</li> <li>• Calls made and received during a particular period of time</li> </ul> <p>K. Multiple Tower Data Analysis</p> <ul style="list-style-type: none"> <li>• Common Nos. among the Tower and their CDRs</li> <li>• Compare the Tower and find out the new Nos. present and their CDRs and also during a particular period of time</li> </ul>	
12.	Features	<ul style="list-style-type: none"> <li>• Junk Numbers: Ability to mark junk numbers in the list so that they are not used for future analysis</li> <li>• International Call Analysis: The system should be able to integrate with International Calls, filter all ISD Calls, Data source and should be capable of analyzing the same</li> <li>• New Number Analysis:</li> </ul>	

		<p>New Number Analysis to find out the probable new numbers utilized by the suspect</p> <ul style="list-style-type: none"> <li>• Conference call Analysis: Call Report/ summary based on the calls wherein three or more people are connected together.</li> <li>• Offender List: Software alerts and flashes the IMEI/ Phone Number if an offender number is present in the CDR that is currently imported. If any proclaimed offender is present in the CDR, immediately, the Investigation Officer should know about it.</li> <li>• Common Number: Common numbers among the selected group of data (be it CDRs or Tower Data) can be find out to access the possible relation among the persons involved.</li> <li>• Ability to search in old projects.</li> <li>• Night Calls: Time based search which identifies calls on the basis of time i.e., day and night useful to find out the hideouts/ residential areas of the callers and also the probable working place Custom Reports</li> <li>• Utility Excel splitter for split individual CDR from multiple CDR excel file</li> <li>• Utility Excel and text file column splitter for split individual CDR from multiple CDR single excel sheet.</li> <li>• Utility to search nearest tower list via no. of tower and distance and area selection.</li> <li>• Search records in multiple CDR's and merge</li> <li>• Connectivity between each other in multiple CDR</li> <li>• Merge multiple CDR in to single CDR</li> <li>• Any custom report required by police department</li> </ul>	
13.	SDR	<p>System should be able to integrate with Subscriber Dump and the required SDR should be displayed on screen during wherever it is needed.</p> <ul style="list-style-type: none"> <li>• Mobile/Subscriber Data Uploading, Searching Facility.</li> <li>• Keep updating database every Quarter.</li> </ul>	
14.	Group Call Analysis	<ul style="list-style-type: none"> <li>• Discover Tower Groups with A Party + B Party and only A party under tower.</li> <li>• Search Number in Generated Groups.</li> <li>• Filtration via Date/Time, Call Type, Circle-Network.</li> </ul>	

		<ul style="list-style-type: none"> <li>• Group Call Details, Group Call Frequency Details</li> <li>• Graphical Analysis of Group Calls Via Interconnected Graphs.</li> <li>• Group Call Under Tower Node Highlight.</li> <li>• Convert Complete Group as Separate CDR.</li> </ul>	
15.	Android App for CDR Analysis	<p>The android app shall have following features:</p> <ul style="list-style-type: none"> <li>• Project Create, Open and Save Facility.</li> <li>• Add Sheet with Auto Detection Of Network and Circle.</li> </ul> <p>App shall have following basic reports as follows:</p> <ul style="list-style-type: none"> <li>• Corrected Sheet for showing subscriber, tower, handset, operator, international call details with proper call type detection.</li> <li>• Maximum Called Numbers with Circle Name &amp; Operator, First Call, Last Call, Total Call-In, Total Call-Out, Total Sms-In, Total Sms-Out and Roaming Call Details.</li> <li>• Maximum Circle Calls with Total Call-In, Total Call-Out, Total Sms-In, Total Sms-Out and Roaming Call Details.</li> <li>• Daily First and Last Calls Details with Cell-ID Address.</li> <li>• Maximum Call Duration with Circle Name &amp; Operator, First Call, Last Call, Total Call-In, Total Call-Out, Total Sms-In, Total Sms-Out and Roaming Call Details.</li> <li>• Maximum IMEI with Total Calls Details.</li> <li>• Daily IMEI Tracking with First Call Cell-ID Address.</li> <li>• Maximum Called Location with Circle Name &amp; Operator, First Call, Last Call, Total Call-In, Total Call-Out, Total Sms-In, Total Sms-Out and Roaming Call Details.</li> <li>• Daily First and Last Location with Call Time and Cell-ID Address.</li> <li>• Separate Details For Roaming Calls.</li> <li>• Separate Details For International Calls.</li> <li>• Common Numbers, Locations, IMEI</li> <li>• Search Facility via Mobile Number, IMEI, Cell-ID, Time Duration, Date.</li> </ul>	
16.	Utility Android App	<p>The following utility shall be available in the android app:</p> <ul style="list-style-type: none"> <li>• Subscriber Information Search</li> <li>• True Caller Search</li> <li>• Facebook Search</li> <li>• Tower Information</li> <li>• MSC Code Search</li> </ul>	

		<ul style="list-style-type: none"> <li>• MCC-MNC Code Search</li> <li>• STD Code Search</li> <li>• ISD Code Search</li> <li>• PIN Code Search</li> <li>• IMEI Search</li> <li>• Domain Information</li> <li>• Call Logs</li> <li>• SMS Code Search</li> <li>• RTO Information</li> <li>• Vehicle Information</li> <li>• ALL India Voter ID Search</li> <li>• IP Address Search</li> <li>• Aadhaar Card Information</li> <li>• D/L Information</li> <li>• Landline Information</li> <li>• PAN Card Search</li> <li>• Telemarketing Code Search</li> <li>• Highway Toll Information</li> <li>• Tower Data Download</li> <li>• Police Contact Search</li> <li>• Port Inquiry</li> <li>• Caller ID</li> </ul>	
17.	License	Perpetual License to be provided	
18.	Localization and Customization:	The OEM is required to study the requirement with Police Department and customise the software product to suit their requirements.	
19.	Office in Rajasthan	OEM shall have technical support office in Rajasthan.	
20.	Warranty/Technical Support	5 Years Comprehensive OEM Warranty with necessary updates, upgrades and patches	

**ITEM NO 81 : IP Public Address System and Emergency Call Box Server**

S. No.	Item	Description of Requirement	Compliance (Yes/No)
1.	<b>Make</b>		
2.	<b>Model</b>		
3.	General	IP Public Address system cum Emergency call box Server Software perpetual License to enable the combination of public address and Emergency Call Box Intercom function on a single platform at 16 kHz audio standard to transmits voice communication, emergency calls. capable of addressing citizen at any given specific locations from CCC with the integration of Emergency Communication Box to enable citizens to establish a two-way audio (microphone and speaker) communication link with CCCR through a press of a button.	

4.	Features	<p>Server software shall have following capabilities:</p> <ul style="list-style-type: none"> <li>• Intercom systems expandable up to 5000 Subscriber</li> <li>• Supports IP-based, digital and analogue Intercom stations as well as IP stations and third-party IP devices via ICX protocol;</li> <li>• VoIP connectivity to PSTN via SIP gateways; IPv6 enabled from day one;</li> <li>• remote maintenance support via internet; VoIP gateway; Networking with hardware Intercom Server via LAN/WAN;</li> <li>• Intercom client for PC and mobile devices;</li> <li>• ECB stations and Public address System, Intercom station; Control desk solution; Intercom stations and Intercom modules; IP camera; Pre-recorded voice messages for customised announcements (waiting, information, alarm messages ...);</li> <li>• Audio monitoring for automated call triggering, e.g. at a scream or shout; Audio recording interfaces; All Calls and group calls with automated response function;</li> <li>• Conference calls with any number of subscribers; Call forwarding;</li> <li>• Integration of third-party systems (OPC, TETRA, etc) Seamless VoIP integration via SIP;</li> </ul>	
5.	Integration	The IP PA System Server should be integrated to Dial 100 system for call forwarding, integrated to VMS and CCC	
6.	GUI	System should have its own GUI for monitoring and managing the operations of PA & ECB	
7.	Same OEM	The IP PA amplifier, IP Speakers, Central Control Desk managing the PA & ECB and Server Software have to from the same OEM.	
8.	IP based Announcement	The proposed system shall contain an IP based announcing control connected to the Abhay Command & Control Center.	
9.	General	Public Address system to be used at intersections, public places, market places or those critical locations as identified to make important announcements for the public.	
10.	Single Zone/Multi Zone	The PA System shall be able to broadcast messages across all PA systems or specific announcement could be made to a particular location supporting single zone (1:1)/multi zone (1: Many) operations.	
11.	USB Playback	The system shall also deliver pre-recorded messages to the loud speakers at a particular junction or to all junctions, background music to played from from CD/DVD Players & Pen drives in addition to public announcements.	
12.	Inbuilt Fault Diagnosis	The PA & ECB system should have inbuilt fault diagnosis i.e speaker line monitoring, automatic volume control, loudspeaker microphone monitoring in ECB etc; Help point; Functional monitoring of microphone, Loudspeaker and Intercom station lines	
13.	Control Software	The system shall contain an IP based amplifier and uses PoE power that could drive the speakers. The system shall also contain the control software that could be used to control/monitor all the components of the system that includes Controller, Calling Station & keypad, Amplifier (Mixing & Booster).	

14.	Emergency call button	Emergency/ Panic buttons to be strategically located, suitably sized and identified/clearly labelled for “Emergency”.	
15.	Warranty/Technical Support	5 Years Comprehensive Bidder/OEM Warranty with necessary updates, upgrades and patches	

**ITEM NO 82 : IP Device License**

S. No.	Item	Description of Requirement	Compliance (Yes/No)
1.	<b>Make</b>		
2.	<b>Model</b>		
3.	IP Device License	IP Public Address System & ECB Device Perpetual License for IP Amplifier, IP Speakers, IP ECBs	
4.	Integration	Shall be used for “IP Public Address System and Emergency Call Box Server” quoted in this tender	
5.	Warranty	5 Years Comprehensive Bidder/OEM Warranty and technical support including update, upgrades and patches	

**ITEM NO 83 : IP Horn Loud Speaker**

S. No.	Item	Description of Requirement	Compliance (Yes/No)
1.	<b>Make</b>		
2.	<b>Model</b>		
3.	Integration	Shall be used with “IP Public Address System and Emergency Call Box Server” quoted in this tender	
4.	IP Horn Loud Speaker	The IP horn loudspeaker to provide reliable voice signal transmission under rough city Surveillance Conditions with built-in Microphone	
5.	Speaker & Microphone	Speaker Sound Pressure Level SPL 118dB, built in microphone for AVL, integrated 10W class-D amplifier	
6.	Loudspeaker frequency range (-10 dB)	350 Hz to 10 kHz	
7.	Transmission bandwidth	16 kHz	
8.	Power	PoE, IEEE 802.3af Standard	
9.	Relay Input-output	Built-in inputs for floating Contacts & Outputs for Switch-over Contacts & Normally Open Contact	
10.	IP Protection	IP-66	
11.	Operating Temperature	0° to 70°C	
12.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 84: Supply and laying of ISI Mark PVC 25mm conduits/casing with CAT6 Cable**

S. No.	Description	Compliance (Yes/No)
1.	Supply and laying of PVC conduit/ casing 25 mm ISI mark with CAT6 Cable including all accessories like saddle, screws, jointers etc.	
2.	Conducting and channelling of PVC Conduits/ Casing Capping on walls. The Conduits/ Casing Capping shall be marked with “IT Wiring” at regular	

	interval of lengths as an identification mark, I/O Fixing & Termination at both ends	
3.	<p>CAT 6 Cable shall have following minimum technical specifications</p> <ul style="list-style-type: none"> <li>The cable should have 4 pair construction with round sheath and proper construction to avoid the Alien crosstalk</li> <li>Inner jacket Type- Low smoke Zero halogen</li> <li>Outdoor Jacket Type- UV Resistant PVC Compound</li> <li>Electrical performance guaranteed to meet or exceed the channel specifications of Amendment 1 to ISO/IEC 1180:2001 Class EA, and ANSI/TIA-568-C.2 Category 6 up to 500 MHz</li> <li>The OEM should have published performance guidelines and installation instructions</li> <li>The OEM should provide 20 years of Extended product warranty and application assurance</li> </ul>	
4.	Warranty: 5 years comprehensive Bidder/OEM warranty	

**ITEM NO 85: Supply and laying of ISI Mark PVC 50 mm conduits/casing with CAT6 Cable**

S. No.	Description	Compliance (Yes/No)
1.	Supply and laying of PVC conduit/ casing 50 mm ISI mark with CAT6 Cable including all accessories like saddle, screws, jointers etc.	
2.	Conducting and channelling of PVC Conduits/ Casing Capping on walls. The Conduits/ Casing Capping shall be marked with "IT Wiring" at regular interval of lengths as an identification mark, I/O Fixing & Termination at both ends	
3.	<p>CAT 6 Cable shall have following minimum technical specifications</p> <ul style="list-style-type: none"> <li>The cable should have 4 pair construction with round sheath and proper construction to avoid the Alien crosstalk</li> <li>Inner jacket Type- Low smoke Zero halogen</li> <li>Outdoor Jacket Type- UV Resistant PVC Compound</li> <li>Electrical performance guaranteed to meet or exceed the channel specifications of Amendment 1 to ISO/IEC 1180:2001 Class EA, and ANSI/TIA-568-C.2 Category 6 up to 500 MHz</li> <li>The OEM should have published performance guidelines and installation instructions</li> <li>The OEM should provide 20 years of Extended product warranty and application assurance</li> </ul>	
4.	Warranty: 5 years comprehensive Bidder/OEM warranty	

**ITEM NO 86: Information Outlet with surface mount box (Single RJ 45)**

S. No.	Description	Compliance (Yes/No)
1.	Should meet for exceed the TIA/EIA-568-C.2 Component Compliant (1Gigabit) standard	
2.	Power on Ethernet: Shall support minimum 1.5A current to support PoE and PoE+ applications	
3.	Surface mount box with single RJ45 socket to terminate CAT 6 Cable for data, voice and video applications as per requirement of this tender	



4.	Accessories Strain relief and bend-limiting boot for cable , Approval UL or ETL or 3P	
5.	Housing Polyphenylene oxide, 94V-0 rated Wiring blocks Polycarbonate, 94V-0 rated	
6.	ROHS Compliant , 3rd party from bodies like ETL verified	
7.	Warranty: 5 years comprehensive Bidder/OEM warranty	

**ITEM NO 87: Information Outlet with surface mount box (Double RJ 45)**

S. No.	Description	Compliance (Yes/No)
1.	Should meet for exceed the TIA/EIA-568-C.2 Component Compliant (1Gigabit) standard	
2.	Power on Ethernet: Shall support minimum 1.5A current to support PoE and PoE+ applications on each RJ 45	
3.	Surface mount box with double RJ45 socket to terminate CAT 6 Cable for data, voice and video applications as per requirement of this tender	
4.	Accessories Strain relief and bend-limiting boot for cable , Approval UL or ETL or 3P	
5.	Housing Polyphenylene oxide, 94V-0 rated Wiring blocks Polycarbonate, 94V-0 rated	
6.	ROHS Compliant , 3rd party from bodies like ETL verified	
7.	Warranty: 5 years comprehensive Bidder/OEM warranty	

**ITEM NO 88: Point Wiring-Type 1**

S. No.	Description	Compliance (Yes/No)
1.	Point Wiring with 2x4 sq mm+ 1x2.5 sq mm frls copper wire consisting of 4 numbers of 5 Amp Socket controlled by single 16 Amp. Switch (with required conduits and cables)	
2.	Warranty: 5 years comprehensive Bidder/OEM warranty	

**ITEM NO 89: Point Wiring-Type 2**

S. No.	Description	Compliance (Yes/No)
1.	Point Wiring with 2x6 sq mm+ 1x4 sq mm frls copper wire individual 3 numbers of 5/15 Amp Socket controlled by single 16/25 Amp. Switch (with required conduits and cables)	
2.	Warranty: 5 years comprehensive Bidder/OEM warranty	

**ITEM NO 90: Professional LED Panel with less bezel**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Screen Size	55 inch	
4.	Panel Type	Direct LED	

5.	Aspect Ratio	16:9	
6.	Resolution	1920x1080 (FHD)	
7.	Brightness	500 Cd/m <sup>2</sup>	
8.	Display Color	Minimum 8 bit -16 million	
9.	Response Time	<= 12 ms (G to G)	
10.	Viewing Angle	178/178	
11.	Bezel Width	Maximum 1.8mm	
12.	Bezel Color	Black	
13.	Inputs Ports	RGB, DVI-D, HDMI, USB 2.0/3.0, RJ 45	
14.	External Control	RS232C (In/Out)	
15.	Remote Control	Wireless remote control with each display unit along with batteries	
16.	Certification's	Safety- UL/BIS EMC- FCC	
17.	Usage Hours	24 hours x 7 days	
18.	Fittings and Cables	The screen should be supplied with all necessary cables for connectivity that will be required to connect to the video wall controller and/or work stations and/or any other equipment's as per the requirement of the proposed solution.	
19.	Warranty	5 Years Comprehensive OEM Warranty	
20.	Combination of LED's	The bidder/SI shall ensure the 2x2/3x2/3x3/4x3 combination of above mentioned LED tiled together contiguously to form one large Video wall. All necessary hardware (like video wall mounting bracket etc.) to stack LED screen together to be supplied, which should also be easily maintainable and accessible from the front of the video wall.	
21.	Brightness calibration	Brightness of all LED's in a video wall has to be calibrated.	
22.	Orientation:	The video wall panel should have capability to get mounted in either vertical (portrait) mode or Horizontal (Landscape) mode orientation.	
23.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 91: Access switch ( 8 port)**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Type	Managed Outdoor Industrial grade switch	
4.	Total Ports	8 Ethernet 10/100 ports and 2 dual-purpose uplinks (each dual-purpose uplink port has 1 10/100/1000 Ethernet port and 1 SFP-based Gigabit Ethernet port, 1 port active)	
5.	Ring Support	Switch Should support the Ring connectivity in uplink port (IEEE802.17/Equivalent), LLDP/Equivalent, UDLD/Equivalent	

6.	PoE Standard	IEEE 802.3at on each 10/100 ports or better POE Budget : min. 240w	
7.	PoE Power per port	Sufficient to operate the CCTV cameras connected	
8.	Protocols	<ul style="list-style-type: none"> <li>• Support 802.1Q VLAN</li> <li>• HTTPS/SSH</li> <li>• DHCP support, DHCP Snooping</li> <li>• SNMP Management</li> <li>• IGMP Support</li> <li>• IPv6 protocol support</li> </ul>	
9.	Multi Cast Support	MLD snooping (v1 and v2) and IGMP ( v2 and v3)	
10.	Topology Selection	Bidder has to decide switch model type, be it L2 or L3 as per their design principle. However, bidder has to make sure that spanning tree related loops are prevented at each and every layer.	
11.	Security Features	<ul style="list-style-type: none"> <li>• Dynamic ARP Inspection</li> <li>• IP Source Guard</li> <li>• ARP Snooping/Spoofing</li> <li>• Access Control List</li> </ul>	
12.	Remote Management	Shall Support remote management through SNMP traps	
13.	Access Control	<ul style="list-style-type: none"> <li>• Support port security</li> <li>• Support 802.1x (Port based network access control).</li> <li>• Support for MAC filtering.</li> </ul>	
14.	Industrial Rating	IP 30 and NEMA TS-2	
15.	EN/IEC Standard Ratings	EN/IEC 60068-2-27, ESD EN/IEC 61000-4-2, EN/IEC 61000-4-3, EN/IEC 61000-4-4 EFT, EN/IEC 61000-4-6, EN/IEC 61000-4-8, EN/IEC 60068-2-6,RoHS and EMC as FCC Part 15,Class A.	
16.	Surge Protection	Yes, EN/IEC 61000-4-5	
17.	Operating Temperature	-10 to 70 degrees C or better	
18.	Certification to be provided by bidder	UL,CE and NEMA TS-2	
19.	Cables	All necessary data and power cables and industrial grade power adapter to be provided	
20.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 92: DRONE**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		

3.	Operating Frequency	2.4Ghz/ 5.8 Ghz	
4.	Maximum Flying Height	400 m from ground	
5.	Take-off Weight	3500g or lesser	
6.	Payload to be supplied	Day (RGB) and Night (Thermal) sensors must be provided. Sensors must be easily interchangeable	
7.	Day Sensor	Photo at 12MP or higher and Video at 4K or higher ; 5x zoom capability or higher	
8.	Night sensor	Digital Video Display Format at 336 x 256 or higher	
9.	Payload Stabilisation	Both RGB and Thermal sensors must be mounted on a 3-axis stabilised gimbal	
10.	Flying time	30 minutes or more	
11.	Flying speed	40 Kph or more	
12.	Launch mode	Vertical take-off and landing	
13.	Recovery mode	Automated landing and return to home (on-demand) compatibility Return to home should also be automatically activated while running out of battery	
14.	Propulsion system	Minimum of four propellers operated by battery	
15.	Battery	Rechargeable Lithium Polymer battery. All onboard systems must be powered by the battery. The UAV must have at least one spare battery for redundancy simultaneously connected to independent circuits at all times. Total energy from batteries must not exceed 275Wh	
16.	Control Range	2km or more	
17.	GPS	GPS enabled with horizontal and vertical accuracy at 1m or better. GPS must have option to be upgraded to a RTK System.	
18.	Obstacle Avoidance	Must have integrated active obstacle avoidance in all directions	
19.	LED's	Must have different coloured LED's to denote front and rear, visible during day and night time	
20.	Data from ground to UAV	Transmitter with rechargeable battery. Must provide camera control (pitch and yaw) and command signals to UAV	
21.	Data from UAV to ground	Integrated video TX and RX. Continuous video streaming capability and continuous flight data streaming capability for both sensors is a must	
22.	Ground Station Parameters	Ground station must consist of a transmitter to operate the UAV and receive data along with a HD viewing device (tablet-min 10 inch). Live stream of video at 1080p or higher. Ground station must have a provision for simultaneous recording of real-time payload imagery for the entire duration of flight and for subsequent playback	

23.	Waypoint Navigation	UAV must be capable to flying along a pre-set path marked by waypoints in a fully autonomous manner. This capability must be proved online and offline. Pre planned flights must be executed without network connection.	
24.	Tracking	UAV must have on-board image processing capabilities to be able to follow/ track an object/ person of interest	
25.	Headset integration	Sensors with a V.R. headset such that video output is visible. The headset must have camera tracking capabilities such that camera control (pitch and yaw) is obtained using head tracking	
26.	Integration	The system is to be delivered, assembled, configured and tested. It has to be integrated with Command and Control system of concerned place of operations. Must be simple, rugged and easy to operate by a single operator	
27.	Spares/Accessories	Essential spares must be provided along with all required accessories including but not limited to batteries- 4 sets, chargers, cables, propeller's- 8, screws, wrenches etc.	
28.	Documentation Support	All necessary operating, technical and user manuals along with SOP's must be provided	
29.	Certificates	Choking Hazard Warning ; Battery safety certification for physical, chemical, toxic and ecological compliances and other safety certification	
30.	Safe Transportation	The entire system must be packed in a rugged container for safe transportation	
31.	Shock Absorber	Landing gears must be equipped with damping system	
32.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO. 93: 3 core Electrical Cabling**

Power cables used for extending power supply to various cameras and other devices shall have the following minimum specifications: -

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	Copper Cable	Yes	
4.	No of Cores	3	
5.	Area (Sq. mm.)	2.5	
6.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No. 94 : 4 core Electrical Cabling**

Power cables used for extending power supply to various cameras and other devices shall have the following minimum specifications: -

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make		

2.	Model		
3.	Copper Cable	Yes	
4.	No of Cores	4	
5.	Area (Sq. mm.)	4	
6.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 95: Display Controller (3x2)**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	General	Display Controller should be scalable to control video wall in a matrix of M x N (any combination of Row & Column) up to total of 6 screens. It should also be capable of taking universal inputs for video as well as data along with necessary wall management software's	
4.	Processor and RAM	Min. Quad-Core Processor, E5 Xeon Series or latest processor in the controller and 16 GB RAM.  If required, Bidder has to increase processing power and RAM for displaying videos at min. 25fps without any delay and any additional cost to tendering authority.	
5.	Networking	Dual-port Gigabit Ethernet Controller inbuilt Support for Add on Network adapters	
6.	Wall configuration:	6 DVI-D/ HDMI Outputs	
7.	Resolution Output support:	Minimum 1920x1080 or higher	
8.	Universal Inputs	6 Universal Inputs (Should be able to accept at least 3 kinds of signals i.e. DVI/RGB/HDMI)	
9.	Redundancy Support:	System should have the redundancy support for following: <ul style="list-style-type: none"> <li>- Controller Hard Disk Data</li> <li>- Hot Swappable Power Supply</li> <li>- LAN</li> </ul>	
10.	Matrix Combination	The video wall of any matrix combination (CR) should be capable of displaying multiple type of outputs as desired in CCC facility	
11.	Software	Compatible Video Wall Management software to meet the required functionality	
12.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM MO 96: Display Controller (3x3)**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	General	Display Controller should be scalable to control video wall in a matrix of M x N (any combination of Row & Column) up to total of 9 screens. It should also be	

		capable of taking universal inputs for video as well as data along with necessary wall management software's	
4.	Processor and RAM	Min. Dual Xeon Processor (Quad-Core Processor), E5 Xeon Series or latest RAM: 32GB If required, Bidder has to increase processing power and RAM for displaying videos at min. 25fps without any delay and any additional cost to tendering authority.	
5.	Networking	Dual-port Gigabit Ethernet Controller inbuilt Support for Add on Network adapters	
6.	Wall configuration:	9 DVI-D/ HDMI Outputs	
7.	Resolution Output support:	Minimum 1920x1080 or higher	
8.	Universal Inputs	9 Universal Inputs (Should be able to accept at least 3 kinds of signals i.e. DVI/RGB/HDMI)	
9.	Redundancy Support:	System should have the redundancy support for following: - Controller Hard Disk Data - Hot Swappable Power Supply - LAN	
10.	Matrix Combination	The video wall of any matrix combination (CR) should be capable of displaying multiple type of outputs as desired in CCC facility	
11.	Software	Compatible Video Wall Management software to meet the required functionality	
12.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 97: Display Controller (4x3)**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	General	Display Controller should be scalable to control video wall in a matrix of M x N (any combination of Row & Column) up to total of 12 screens. It should also be capable of taking universal inputs for video as well as data along with necessary wall management software's	
4.	Processor and RAM	Min. Dual Xeon Processor (Quad-Core Processor), E5 Xeon Series or latest RAM: 32GB If required, Bidder has to increase processing power and RAM for displaying videos at min. 25fps without any delay and any additional cost to tendering authority.	
5.	Networking	Dual-port Gigabit Ethernet Controller inbuilt Support for Add on Network adapters	
6.	Wall configuration:	12 DVI-D/ HDMI Outputs	
7.	Resolution Output support:	Minimum 1920x1080 or higher	
8.	Universal Inputs	12 Universal Inputs (Should be able to accept at least 3 kinds of signals i.e. DVI/RGB/HDMI)	
9.	Redundancy Support:	System should have the redundancy support for following:	

		<ul style="list-style-type: none"> <li>- Controller Hard Disk Data</li> <li>- Hot Swappable Power Supply</li> <li>- LAN</li> </ul>	
10.	Matrix Combination	The video wall of any matrix combination (CR) should be capable of displaying multiple type of outputs as desired in CCC facility	
11.	Software	Compatible Video Wall Management software to meet the required functionality	
12.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 98: Display Controller (2x2)**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		
3.	General	Display Controller should be scalable to control video wall in a matrix of M x N (any combination of Row & Column) up to total of 4 screens. It should also be capable of taking universal inputs for video as well as data along with necessary wall management software's	
4.	Processor and RAM	Min. Quad-Core Processor, E5 Xeon Series or latest processor in the controller and 16 GB RAM.  If required, Bidder has to increase processing power and RAM for displaying videos at min. 25fps without any delay and any additional cost to tendering authority.	
5.	Networking	Dual-port Gigabit Ethernet Controller inbuilt Support for Add on Network adapters	
6.	Wall configuration:	4 DVI-D/ HDMI Outputs	
7.	Resolution Output support:	Minimum 1920x1080 or higher	
8.	Universal Inputs	4 Universal Inputs (Should be able to accept at least 3 kinds of signals i.e. DVI/RGB/HDMI)	
9.	Redundancy Support:	System should have the redundancy support for following: <ul style="list-style-type: none"> <li>- Controller Hard Disk Data</li> <li>- Hot Swappable Power Supply</li> <li>- LAN</li> </ul>	
10.	Matrix Combination	The video wall of any matrix combination (CR) should be capable of displaying multiple type of outputs as desired in CCC facility	
11.	Software	Compatible Video Wall Management software to meet the required functionality	
12.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 99: DCPS ( DC Power Supply)**

S. No.	Features	Description	Compliance (Yes/No)
1.	Make		
2.	Model		



<b>Enclosure</b>		
3.	General	The system shall be IP 55 with wall/floor and Pole mount option. This shall withstand the high temperature operation requirement as the system is exposed to outdoor environment. The system shall be unique and equipment space should be efficiently designed and the thermal condition should be evenly managed. Size of the cabinet is 600(H) x 450(W) x 475(D) mm, Material of Cabinet is GI -120 GSM, Surface treatment PP Coating 80-120 Micron and Color-RAL (7035).
4.	Warranty	5 Years Comprehensive bidder/OEM Warranty
<b>Rectifier-48VDC</b>		
6.	General	It shall be SMPS based and shall communicate with controller to charge the battery and provide the output. This shall work in parallel to share the load and provide redundancy. Failure of one module shall not affect operation of another module and other module shall keep working to feed the load.  Rectifier shall have all the power connection on the backplane and shall be hot plug type in prewired shelf.
7.	Nominal Input Voltage	90 to 300 VAC
8.	Full Power operating range	185 to 300 VAC
9.	Operating Frequency	45 to 66 Hz
10.	Rectifier Module Capacity	850 Watt each (N+1) with 1 Redundant 850 W rectifier
11.	Maximum. input current	<5 Amps each module
12.	Efficiency at nominal condition	>90%
13.	Operating Temperature	0 to 75 Deg C
14.	Relative Humidity	5 to 95% (Non condensing)
15.	Parallel Operation	Yes
16.	Module communication with controller	CANBUS
17.	Warranty	5 Years Comprehensive Bidder/OEM Warranty
<b>Controller</b>		
18.	General	<ul style="list-style-type: none"> <li>• The controller shall be advanced controller to take care of Lithium Ion Battery charging.</li> <li>• The controller shall have PLC based functionality so that various load can be connected and disconnected remotely based on the requirement of the system.</li> <li>• The controller shall able to provide data over SNMP and shall be able to integrate with GSM modem for remote communication and bidirectional operation of the system.</li> <li>• Controller must meet all the requirement and regulation of telecom domain.</li> </ul>

19.	Controller Interface	Digital, CANBUS	
20.	Rectifier interface	Digital, CAN-based	
21.	Rectifier Operation	Parallelable	
22.	Digital input	4	
23.	Relay output	6	
24.	Temperature Monitoring	Yes	
25.	Voltage, current	Load, Battery	
26.	Display	LCD Display	
27.	Local monitoring	LAN / WEB browser	
28.	Remote monitoring	LAN / modem, GSM, GPRS / WEB browser/SNMP/Modbus	
29.	Remote Load "Switch ON/OFF feature"	The controller shall have PLC based functionality so that various loads can be connected and disconnected remotely based on the requirement of the system. The controller shall be able to provide data over SNMP and shall be able to integrate with GSM modem for remote communication and bidirectional operation of the system.	
30.	Remote alarming	Dry contacts / SNMP	
31.	Languages	English	
32.	Local user interface	configurable LEDs; LCD display; Keypad	
33.	WEB	Four different access levels; More than 200 dynamic WEB pages; SW and setup updates locally and remotely	
34.	SNMP	Remote alarms using traps; Dial-out feature together with modems	
35.	Parameter Setting	Keypad on Controller	
36.	Safety	EN 60950, class I; UL 60950; CAN / CSA - C22.2	
37.	EMC	EN 55022/EN 61000-6/1 class B; ETSI EN 300386 compliant	
38.	Cooling	Natural air flow	
39.	Operating temperature	0 to +65 °C / +32 to +140 °F	
40.	Relative humidity	95 %, non-condensing	
41.	Safety	EN 60950, class I; UL 60950; CAN / CSA - C22.2	
42.	Battery management	Temperature compensated float charge / Boost and equalize charge	
43.		Charging current limitation (advanced)	
44.		Low voltage disconnection, State of charge supervision and display	
45.		Backup time supervision / Life time prediction, Automatic capacity test	
46.		Symmetry supervision for voltage and currents	
47.		Block voltage supervision	
48.		PLC functionality for customization and supervision and control of auxiliary devices	

49.	Rectifier management	AC measurement (internal / external)	
50.		Mains failure detection and alarming	
51.		LVD and PLD functions	
52.		Configurable event and data log	
53.	System Management	Individual rectifier information and control	
54.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	
55.	<b>Battery Specification</b>		
56.	Battery-Lithium-Ion	The system should be designed to work with Lithium Ion battery (20AH)	
57.	Technology	LiFePO4	
58.	Nominal Voltage	48V	
59.	Cycles	>2000 Cycles	
60.	Operating Temperature Range (Charge)	-20~60 °C	
61.	Operating Temperature Range (Discharge)	-20~60 °C	
62.	Operating Temperature Range (Storage)	-20~60 °C	
63.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 100: Network Rack ( 9U)**

S. No.	Item	Description of Requirement	Compliance (Yes/No)
1.	<b>Make</b>		
2.	<b>Model</b>		
3.	HEIGHT	Min.9U	
4.	TYPE	WALL MOUNT	
5.	WIRE MANAGERS	ONE HORIZONTAL	
6.	POWER DISTRIBUTION	POWER DISTRIBUTION (Adequate number of sockets as per requirement)	
7.	DOOR	GLASS DOOR IN FRONT WITH LOCK	
8.	FAN TRAYS	WITH FANS	
9.	DEPTH	600 MM	
10.	METAL	ALUMINIUM EXTRUDED PROFILE/CRCA Sheet Steel	
11.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 101: Network Rack ( 42 U)**

S. No.	Description of Requirement	Compliance (Yes/No)
1.	Make:	
2.	Model:	

3.	<p>Supply, Assembly and Installation of UL listed Server Racks Size - Minimum. 800 mm (W) x 1200 mm (D) Height - 42 U Rack should include following</p> <ol style="list-style-type: none"> <li>Single Perforated Front Door with profile which shall have better air flow or curved profile. Minimum 80% of Open Perforated area of Front Door</li> <li>Split Perforated Rear Door for better clearance at rear side</li> <li>Removable side panel split in to two for easy removal with lock. Side Panel should be of pass-through type in front and rear side, with preinstalled wire brush. This shall allow to pass the cables to side enclosure directly without mixing the air between.</li> <li>Castor Wheels and adjustable levelling feet from underneath or above.</li> <li>Roof includes two large cable access slots for high density cabling and brush strips for air containment. Roof to have spring loaded pints for easy roof removal and installation with cable in place</li> <li>Vendor-neutral EIA-310, 19" Rack Mounting Rail with option of adjustment in 1/4 in (6.4 mm) increments, U position numbered in front and rear.</li> <li>Baying Kit to join enclosures</li> <li>Hardware Kit with M6 x 16 Phillips slot screws and cage nuts</li> <li>Vertical Manager - 02, pre-installed in front side of rack, 01 in left and 01 in right. The vertical cable manager should have smooth plastic cable guides at 1 U increments to allow patch cords to enter and exit in an organized manner.</li> <li>Static Load Capacity of minimum 1300 kgs and rolling load of not less than 1000 kgs</li> </ol>	
4.	<p>Supply, Installation, Testing and Commission of min. 2 no. of intelligent PDU capable to work on wire-free network, Nominal Input Voltage – 230, Input Frequency – 50/60 Hz, Input connections- IEC 309 32A P+N+E, Input power 7.3kVA, Cord Length-3 meters minimum, Maximum Input Current per phase – 32A, Nominal Output Voltage- 230, Maximum Total Current Draw per Phase- 32A, Output Connection minimum 24 no's of IEC 320 C13 &amp; 6 no's of IEC 320 C19, Overload Protection Hydraulic Magnetic Circuit Breakers, Mounting Size Zero U Tool less Design, Environmental Operating Temperature 0°C to- 60°C (32°F to 140°F), Storage -40°C to 85°C (-40°F to 185°F), Operating Relative Humidity 8%RH to 90%RH, Conformance Safety Verifications – UL 60950-1, UL489, TUV, CE and RoHS compliant</p>	
5.	5 Years Comprehensive Bidder/OEM Warranty	

**ITEM NO 102: Tower-150ft. self supported tower**

S. No.	Features	Description	Compliance (Yes/No)
1.	Height from site level	150 ft., Angular Four legged	
2.	Load	The tower shall be designed and constructed/erected to be suitable for the described antenna loading, Radio loading, weather conditions, soil conditions and conform to the given certification.	
3.	Hot Dip Galvanization	<ul style="list-style-type: none"> <li>All tower elements shall be angular and hot dip galvanized as per applicable IS Standards. IS 4759.</li> <li>All tower accessories like antenna mounts, platforms, cable trays, safety climbing ladder etc. should also be hot dip galvanized as per applicable IS Standards.</li> </ul>	

		<ul style="list-style-type: none"> <li>Nuts, bolts &amp; washers and fasteners should be Hot dip galvanized as per applicable IS Standards.</li> <li>Bolts and nuts should be hexagonal hot dip galvanized.</li> <li>All parts of tower material will be hot dip galvanized steel base structure</li> <li>Tower material will be conforming to IS 2062 Grade 'A' with good workmanship finishing</li> </ul>	
4.	Fabrication	Fabrication and Design should be as per CSIR-SERC/IIT or any Govt. approved structural Engineer drawing, galvanizing, bundling and supply to destination along with lightning arrestor, aviation light, working/rest platform, ladder with protective cage. The tower must be supplied against CSIR-SERC/IIT approved drawing. Drawing must be submitted along with tender.	
5.	Base Dimensions	22' X 22' (in feet) approx.	
6.	Working platform	3 Nos. (Every 50' and 1 Nos Working Platform at 3 Mtr from Top)	
7.	Design	The bidder shall provide Approved Design of Tower with technical details of tower structure along with bid . Civil foundation drawings may be submitted as and when required by this department. Design submitted by bidder will be accepted only after considering technical aspects. The order will be placed after approval of said designs by committee.	
8.	Top Loading Factor	Total load / weight of 350 Kgs of antennas is to be considered on tower along with loads of working / Rest platform . The platform should be sufficient to withhold a load of 100 Kgs.	
9.	Wind Velocity Factor	Tower shall be operational and able to withstand the wind velocity corresponding to wind zone and terrain category -2 as below: Operational: 180Km/hr Survival: 225Km/hr K1 to be considered as 100 Years of mean design life and FOS on stress 1.66.	
10.	Foundations	Bidder is advised to inspect the tower site and acquaint himself with the local terrain & site conditions, soil conditions, nature of sub soil, water table and its seasonal variations etc. and make such local enquiries , as may be required for any data required by him ,before quoting if required	
11.		The Cement, sand and concrete used shall be of best grade and the concrete shall be mixed in a mechanical mixer in the standard ratio 1:2:4. The foundation shall be watered and cured for at least 14 days and the erection of the tower shall be commenced only after the foundations are thoroughly cured.	
12.	Protection against lightning	The tower shall be provided with a suitable complete system of lightening protection in accordance as per IS standards, including necessary earthing based in the specific resistivity of the soil and sub-soil water level.	

		The lightening protective system shall be got approved, before execution.	
13.	Welding	Welding at the base/rest plate shall be done as per IS standards and test for quality of welding will be carried as prescribed in the test schedule/procedure	
14.	Earthing	<p>For Earthing of the tower 25 sq mm X 2 PVC sheathed mm Cu cable shall be connected to the Solid 12 mm Cu Lightning Arrestor and shall be bonded to the all four legs at the termination of the gusset plate of the first joint forming a ring earth at the other end.</p> <ol style="list-style-type: none"> <li>All the tower legs shall be grounded properly, following the standard practise of earthing of such structures in level ground and mountainous regions.</li> <li>The tower earthing shall be done as per the relevant standards and industry practices. The earth resistance of the tower shall be less than 2 Ohm.</li> </ol>	
15.	Ladders	<ul style="list-style-type: none"> <li>Ladders will be external and provided with safety guard rings, but the safety guard rings will be joint by suitable steel flats of good pads, so that danger to climb is minimized.</li> <li>The ladder is made up of steel flat and alloy, steel round bar so that chances of bend in ladder will be minimized.</li> <li>Hoops and runners shall be provided to ensure the safety of the persons climbing the tower.</li> </ul>	
16.	Lightning Arrestor	<p>This system will be provided confirming to relevant ISS/Electric rules (test certificate to be provided). Lightning arrestor at the top of the tower Lightning rod made of copper, as per IS standards with a spike to be provided on one end and threading on the other shall be provided on the top of the tower. The lightning spike shall be connected to ring earth directly by 25 sq mm x 2 PVC earth cable with suitable lugs at both end and suitable tightened along tower leg.</p>	
17.	Aviation Lights	One Nos LED aviation light with twilight switch system along with cables will be provided with fitting and commissioning	
18.	Weight	Bidder to indicate the weight of the towers, excavation and foundation volumes and quote prices on complete tower basis including supply and erection.	
19.	External Fencing	The tower shall be protected with external fencing. (Fencing with iron gates for securing the tower with any external objects.)	
20.	Erection Site	As per given sites in Rajasthan State. Bidder may be suggested to visit city control room Jaipur for sample tower.	
21.	PAINTING	The Tower shall be painted with equal alternate bands of Enamel White and Deep Orange along with Zinc Chromate as base primer as per ICAO norms.	

22.	Warranty	5 Years Comprehensive Bidder/OEM Warranty	
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**ITEM NO 103 : Armoured cable and end termination**

S. No.	Description	Compliance (Yes/No)
1.	P/Laying P.V.C. / XLPE insulated & P.V.C. sheathed cable of 1.1 KV grade with Copper conductor of IS:1554 P-I / IS :7098 P - I of Group 1 of approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, IInd class bricks covering, refilling earth, compaction of earth, making necessary connection, testing etc. as required of size.  Trench: Open trench / Trench excavation in C.C. flooring or Tar road as per site requirement	
2.	Termination: Supplying and making end termination with heavy duty single compression brass gland SIBG type, heavy duty Copper lugs duly crimped with crimping tool, PVC tape etc for following size of Armoured PVC insulated & PVC sheathed/ XLPE aluminium conductor cable of 1100 volt grade as required of size.	
3.	4 Sq.mm 3 Core armoured cable	
4.	Warranty: 5 years comprehensive Bidder/OEM warranty	

**ITEM No. 104: False Ceiling as per specification in RFP (in per Sq. Ft.)**

S.No.	Features	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	P/F of perforated METAL LAY-IN ceiling system consisting of 600x600 mm Lay in tiles of pre coated galvanised steel in 0.5 mm thickness in white colour with standard perforation of 2.5 mm dia and open area of 16% and acoustical fleece glued to the back of the tile to be laid on Silhouette grid systems with colour and white/black reveal white having rotary stitching on the Main Runner 1200mm and 600mm Cross Tees. The tile should have Humidity Resistant (RH) of 100%, NRC of 0.5, Fire Performance A2-s1.d0 in module size of 600x600mm, suitable for green building application, with recycal content of 25%. The Tile shall be laid on silhouette profile grid system with 15mm white flenges incorporating a 6mm central reveal in white/black colour and with a web height of 38 mm. Silhouette, main runners and cross tees to have mitred ends & "birdsmouth" notches to provide mitred cruciform junctions. The T Sections have a Galvanising of 120 gms per metre square and passed through 500 hrs of Salt Test. SUSPENSION SYSTEM ACCESSORIES:- M6 fasteners with vertical hangers made of galvanised steel of size 26x26x25x1.2mm with a galvanised thickness of 80gsm and a tensile strength of 344-413 MPa, Adjustable hook clips of 0.8mm thick, galvanised spring steel for 2.68mm with a minimum pull strength of 110kg. Adjustable clip consisting of a 3.5 mm aquiline wire used with the main runner Preferred Make : Armstrong/Fabtech/Sonex India	
4.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	

**ITEM No 105: Access Ceiling**

S .No.	Features	Compliance (Yes/No)
1.	<p>P/F of perforated METAL LAY-IN ceiling system consisting of 600x600 mm Lay in tiles of pre coated galvanised steel in 0.5 mm thickness in white colour with standard perforation of 2.5 mm dia and open area of 16% and acoustical fleece glued to the back of the tile to be laid on Silhoutte grid systems with colour and white/black reveal white having rotary stitching on the Main Runner 1200mm and 600mm Cross Tees. The tile should have Humidity Resistant (RH) of 100%, NRC of 0.5, Fire Performance A2-s1.d0 in module size of 600x600mm, suitable for green building application, with recycal content of 25%. The Tile shall be laid on silhoutte profile grid system with 15mm white flenges incorporating a 6mm central reveal in white/black colour and with a web height of 38 mm. Silhouette, main runners and cross tees to have mitred ends &amp; "birdsmouth" notches to provide mitred cruciform junctions. The T Sections have a Galvanising of 120 gms per metre square and passed through 500 hrs of Salt Test. SUSPENSION SYSTEM ACCESSORIES:- M6 fasteners with vertical hangers made of galvanised steel of size 26x26x25x1.2mm with a galvanised thickness of 80gsm and a tensile strength of 344-413 MPa, Adjustable hook clips of 0.8mm thick, galvanised spring steel for 2.68mm with a minimum pull strength of 110kg. Adjustable clip consisting of a 3.5 mm aquiline wire used with the main runner</p>	

**ITEM No. 106: Access Floor as per specification in RFP (in per Sq. Ft.)**

S .No.	Features	Compliance (Yes/No)
1.	Make:	
2.	Model:	
3.	<p>S/F of removable false flooring (Access floor) in 600mmx 600mm grid of UDL of 1000 kg/sqm. The flooring shall be laid using Electro-galvanised adjustable jack made out of 75mm dia Bright bar welded on to 100mmx 10mm x 8mm thick MS. plate with hexagonal nut and check nut and aluminium dia cast jack head, electro-galvanised 40mmx 40mm x 3.16mm thick cold rolled channel for main and cross members. The entire framework and jacks are coated with two coats of synthetic enamel paints over a coat of primer. Removal flooring tiles shall be made from steel. The bottom of the panel shall be embosedis hemispherical shape of size 60mm dia and 12 revers conical of 25mm dia to give strength and flexural rigidity. The top sheet shall be plain and resistant welded at various locations. After the top and bottom sheets have been degreased and phosphate the above hollow panel shall have an infill of light weight cementitious material. The entire panel shall be coated with epoxy coating on the exposed surface. The top of the tile shall be finished with 1.5 mm thick anti-static laminate flooring of app-roved band and colour. Necessary cut out for running wire manager, switch, A/C grills and equipment supports shall be given. The height of jacks can vary from site to site requirement from 250 mm to 400 mm . Preferred Make : Benson/ Everest / Legrand/ Schneider/Unifloor</p>	
4.	Warranty: 5 Years Comprehensive Bidder/OEM Warranty	



**Item No 107 : Rack Server Type- I (Proliant DL 380 Gen 9)**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make	Hewlett Packard	
2.	Model	HP Proliant DL-380 Gen 9	
3.	Processor	Min. 2 x Intel® Xeon® E5-2640 V3 (2.6GHz/ 1866MHz FSB, 20 MB Cache) or higher	
4.	Chipset	Intel C600 Series or higher	
5.	Memory (RAM)	Min. 64 GB DDR4 ECC 1866Mhz RDIMM with Memory Mirroring/ Online Sparing expandable to 512 GB RAM	
6.	HDD	Min. 2 x 300GB hot plug SFF 12 Gbps 10K RPM SAS drives or higher	
7.	RAID	Integrated Hardware RAID Controller with RAID 0, 1	
8.	Network	Min. 2 x 10Gbps (WoL and TCP/IP Offloading)	
9.	Interfaces	Min. 1 x USB 2.0/3.0 Port	
10.	SAN Connectivity	Min. 2 x 16 Gbps Fiber Channel HBA ports	
11.	Graphics	Integrated	
12.	Operating System	Genuine MS-Windows Server 2012 R2 standard Edition/RHEL 7 with 5 Years OEM Support, Subscription/ Software Assurance. (Bidder to provide updates, upgrades and patches with 5 years OEM Support)	
13.	Management Features	Two Virtual machine per server shall be created from day 1. In case of any virtualized host failure virtual machine should automatically restart on the redundant virtualized host	
14.	Keyboard and Mouse	Virtual KVM based remote control	
15.	Anti-virus feature	Advanced antivirus, antispymware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
16.	Quality	The Server OEM preferably should be in the latest Gartner Leader Quadrant	
17.	Warranty	5 Years Comprehensive onsite Bidder/OEM Warranty	
18.	Certifications	Should be certified on the supplied OS	

**Item No 108 : Rack Server Type- II (Proliant DL 160 Gen 9)**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make	Hewlett Packard	
2.	Model	HP Proliant DL-160 Gen 9	
3.	Processor	Min. 2 x Intel® Xeon® E5-2640 V3 (2.6GHz/ 1866MHz FSB, 20 MB Cache) or higher	
4.	Chipset	Intel C600 Series or higher	
5.	Memory (RAM)	Min. 64 GB DDR4 ECC 1866Mhz RDIMM with Memory Mirroring/ Online Sparing expandable to 512 GB RAM	

6.	HDD	Min. 2 x 300GB hot plug SFF 12 Gbps 10K RPM SAS drives or higher	
7.	RAID	Integrated Hardware RAID Controller with RAID 0, 1	
8.	Network	Min. 2 x 10Gbps (WoL and TCP/IP Offloading)	
9.	Interfaces	Min. 1 x USB 2.0/3.0 Port	
10.	SAN Connectivity	Min. 2 x 16 Gbps Fiber Channel HBA ports	
11.	Graphics	Integrated	
12.	Operating System	Genuine MS-Windows Server 2012 R2 standard Edition/RHEL 7 with 5 Years OEM Support, Subscription/ Software Assurance. (Bidder to provide updates, upgrades and patches with 5 years OEM Support)	
13.	Management Features	Two Virtual machine per server shall be created from day 1. In case of any virtualized host failure virtual machine should automatically restart on the redundant virtualized host	
14.	Keyboard and Mouse	Virtual KVM based remote control	
15.	Anti-virus feature	Advanced antivirus, antispymware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
16.	Quality	The Server OEM preferably should be in the latest Gartner Leader Quadrant	
17.	Warranty	5 Years Comprehensive onsite Bidder/OEM Warranty	
18.	Certifications	Should be certified on the supplied OS	

**Item No 109 : Rack Server Type- III (PowerEdge R630)**

S. No	Item	Description of Requirement	Compliance (Yes/No)
1.	Make	Dell	
2.	Model	Dell Server DELLOSE	
3.	Processor	Min. 2 x Intel® Xeon® E5-2640 V3 (2.6GHz/ 1866MHz FSB, 20 MB Cache) or higher	
4.	Chipset	Intel C600 Series or higher	
5.	Memory (RAM)	Min. 64 GB DDR4 ECC 1866Mhz RDIMM with Memory Mirroring/ Online Sparing expandable to 512 GB RAM	
6.	HDD	Min. 2 x 300GB hot plug SFF 12 Gbps 10K RPM SAS drives or higher	
7.	RAID	Integrated Hardware RAID Controller with RAID 0, 1	
8.	Network	Min. 2 x 10Gbps (WoL and TCP/IP Offloading)	
9.	Interfaces	Min. 1 x USB 2.0/3.0 Port	
10.	SAN Connectivity	Min. 2 x 16 Gbps Fiber Channel HBA ports	
11.	Graphics	Integrated	

12.	Operating System	Genuine MS-Windows Server 2012 R2 standard Edition/RHEL 7 with 5 Years OEM Support, Subscription/ Software Assurance. (Bidder to provide updates, upgrades and patches with 5 years OEM Support)	
13.	Management Features	Two Virtual machine per server shall be created from day 1. In case of any virtualized host failure virtual machine should automatically restart on the redundant virtualized host	
14.	Keyboard and Mouse	Virtual KVM based remote control	
15.	Anti-virus feature	Advanced antivirus, antispysware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by a central server. (Support, updates, patches and errata for the entire contract/ project period)	
16.	Quality	The Server OEM preferably should be in the latest Gartner Leader Quadrant	
17.	Warranty	5 Years Comprehensive onsite Bidder/OEM Warranty	
18.	Certifications	Should be certified on the supplied OS	

**Item No. 110 ABHED (AI based Human Efface Detection)**

S. No	Functionality
1.	Application should have Data Entry and Search Module: <ul style="list-style-type: none"> <li>• OTP based login (Authentic user whose credentials in database after providing Uname/password OTP gets generated on his registered mobile number to avoid unauthorized access)</li> <li>• Automated user identification and corresponding role based UI (Basic, advance, intermediate, sub-admin, admin)</li> <li>• Basic and advance search mechanism.</li> </ul>
2.	Application should have AI powered facial feature extraction and storage ( Application able to identify images on different lighting condition, facial orientation. AI uses compression technique for faster image matching)
3.	Application should have Network and API optimization (Using AI and compression technique application uses less bandwidth and able to work in poor connectivity. User could upload data when saved data in application on his mobile able to connect in network which is called "offline data sync")
4.	Application should have Web Based central administration system(Application having a central web panel as well to manage all action from single location based on end user role)
5.	Application should have Analytics system(Able to provide criminal analysis and gang analysis.)
6.	Application should have Data Quality Check possibility where Assigned police officers could check data feed in system with different parameters
7.	Maintenance- of Android and iOS need to be updated to support all search technology with every Android OS update
8.	Bidder need to provide Database/Panel Maintenance
9.	Software update for Server and Mobile both.
10.	Mobile Application Testing Web Panel Testing Server Administration
11.	5 Years Comprehensive onsite Bidder/OEM Warranty

