

2026

RajCOMP Info Services Limited (RISL)

RFP for Upgradation (Replacement/upgrade)
and procurement of Comprehensive Annual
Maintenance Contract (CAMC) & FMS of
WS&APS Phase 1 Project in State of Rajasthan
for 5 Years

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RFP for Upgradation(replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5

Reference No. F4.3(613)/RISL/Tech/2024/100

Date:08-04-2026

UBN: RIS2627GLOB00003

Mode of Bid Submission	Online through eProcurement/ e-Tendering system at http://eproc.rajasthan.gov.in
Procuring Authority	Chairman and Managing Director, RISL, First Floor, C-Block, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur-302005 (Rajasthan)
Date & Time of Pre-Bid Meeting	10/04/2026 at 03:30 PM
Last Date & Time of Submission of Bid	15/05/2026 at 04:30 PM
Date & Time of Opening of Technical Bid	15/05/2026 at 05:30 PM

Bidding Document Fee: Rs. 5000.00 (Five Thousand only)

RISL Processing Fee: Rs. 2500.00 (Two Thousand Five Hundred only)

Name of the Bidding Company/ Firm:			
Contact Person(Authorised Bid Signatory):			
Correspondence Address:			
Mobile No.		Telephone & Fax Nos.:	
Website & E-Mail:			

RajCOMP Info Services Limited (RISL)

First Floor, Yojana Bhawan, C-Block, Tilak Marg, C-Scheme, Jaipur-302005 (Raj.)

Phone: 0141-5153224 Fax: 0141-2228701

Web: <http://risl.rajasthan.gov.in>, Email: dineshgurjar.doit@rajasthan.gov.in

ABBREVIATIONS & DEFINITIONS

Act	The Rajasthan Transparency in Public Procurement Act, 2012 (Act No. 21 of 2012) and Rules thereto
Authorised Signatory	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.
BG	Bank Guarantee
Bid/ eBid	A formal offer made in pursuance of an invitation by a procuring entity and includes any tender, proposal or quotation in electronic format
Bid Security	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.
Bidder	Any person/ firm/ agency/ company/ contractor/ supplier/ vendor participating in the procurement/ bidding process with the procurement entity
Bidding Document	Documents issued by the procuring entity, including any amendments thereto, that set out the terms and conditions of the given procurement and includes the invitation to bid
BoM	Bill of Material
CMC	Contract Monitoring Committee
Competent Authority	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.
Contract/ Procurement Contract	A contract entered into between the procuring entity and a successful bidder concerning the subject matter of procurement
Contract/ Project Period	The Contract/ Project Period shall commence from the date of issue of Work order and Five years of operations and maintenance from the data of commissioning.
COTS	Commercial Off The Shelf Software
Day	A calendar day as per GoR/ Gol.
DeitY, Gol	Department of Electronics and Information Technology, Government of India
DoIT&C	Department of Information Technology and Communications, Government of Rajasthan.
ETDC	Electronic Testing & Development Center
Extreme Conditions/ Events	Any Extreme Weather Conditions such as floods/ storm/ thunder/ lightening or fires or theft or vandalism or electric surge etc.
FOR/ FOB	Free on Board or Freight on Board
Gol/ GoR	Govt. of India/ Govt. of Rajasthan
Goods	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
GST	Goods and Service Tax
ICT	Information and Communication Technology.
IFB	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)
INR	Indian Rupee
ISI	Indian Standards Institution
ISO	International Organisation for Standardisation
IT	Information Technology

ITB	Instruction to Bidders
JLCR	Jawaibagh Leopard Conservation Reserve (JLCR)
JNP	Jhalana Nature Park(JNP)
LD	Liquidated Damages
LoI	Letter of Intent
MHTR	Mukundra Hills Tiger Reserve
NCB	A bidding process in which qualified bidders only from within India are allowed to participate
NeGP	National e-Governance Plan of Government of India, Department of Information Technology (DIT), Ministry of Communications and Information Technology (MCIT), New Delhi.
NIB	Notice Inviting Bid
Notification	A notification published in the Official Gazette
OEM	Original Equipment Manufacturer
PAN	Permanent Account Number
PBG	Performance Bank Guarantee
PC	Procurement/ Purchase Committee
PQ	Pre-Qualification
Procurement Process	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
Procurement/ Public Procurement	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
Project Site	Wherever applicable, means the designated place or places.
PSD/ SD	Performance Security Deposit/ Security Deposit
Purchaser/ Tendering Authority/ Procuring Entity	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.
RajSWAN/ RSWAN	Rajasthan State Wide Area Network
RFD	Rajasthan Forest Department, Government of Rajasthan
RTR	Ranthambhore Tiger Reserve
RISL	RajCOMP Info Services Limited
RSDC	Rajasthan State Data Centre, New IT Building, Jaipur
Services	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
SLA	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.
SSDG	State Services Delivery Gateway
State Government	Government of Rajasthan (GoR)
State Public Procurement Portal	http://sppp.rajasthan.gov.in/
STQC	Standardisation Testing and Quality Certification, Govt. of India
STR	Sariska Tiger Reserve
Subject Matter of Procurement	Any item of procurement whether in the form of goods, services or works



TIN	Tax Identification Number
TPA	Third Party Auditors
WO/ PO	Work Order/ Purchase Order

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



Draft RFP for Upgradation (replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5 Years

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

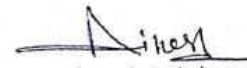
Unique Bid Reference No	RTS26276LOB 00003	
NIB Reference No	F4.3(613)/RISL/Tech/2024/100	Date: 08.04.2026
Name & Address of the Procuring Entity	- Name: Managing Director, RajCOMP Info Services Limited (RISL) - Address: First Floor, Yojana Bhawan, C-Block, Tilak Marg, C-Scheme, Jaipur-302005 (Rajasthan)	
Name & Address of the Project Officer In-charge (POIC)	- Name: Shri Dinesh Gurjar - Designation: SA (Joint Director) - Address: 6th floor, IT Development & E-governance, New IT Building, Mahatma Gandhi Rd, Jhalana Doongri, Jaipur, Rajasthan 302004. Email: dineshgurjar.doit@rajasthan.gov.in	
Subject Matter of Procurement	RFP for upgradation(replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5 Years based on Open Competitive Bidding through e-Procurement/ e-Tender	
Bid Procedure	Single-stage: Two part (envelop) open competitive e-Bid procedure at http://eproc.rajasthan.gov.in	
Bid Evaluation Criteria (Selection Method)	Least Cost Based Selection (LCBS)-L1	
Websites for downloading Bidding Document, Corrigendum's, Addendums etc.	- Websites: http://sppp.rajasthan.gov.in/, http://eproc.rajasthan.gov.in, http://doitc.rajasthan.gov.in, http://risl.rajasthan.gov.in/ - Bidding document fee: Rs. 5000.00 (Rupees Five Thousand only) in Cash/ Demand Draft in favour of "Managing Director, RISL" payable at "Jaipur". - RISL Processing Fee: Rs. 2500.00 (Rupees Two Thousand Five Hundred only) in Demand Draft in favour of "Managing Director, RISL" payable at "Jaipur".	
Estimated Procurement Cost	Rs. 46.38 Crores Only (including GST and all Taxes)	
Bid Security and Mode of Payment	2 % of the estimated procurement cost 0.5% of the estimated procurement cost for S.S.I. unit of Rajasthan 1% of the estimated procurement cost for Sick Industries, other than S.S.I., whose cases are pending with Board of Industrial & Financial Reconstruction - Mode of Payment: Banker's Cheque or Demand Draft or Bank Guarantee of a Scheduled Bank - Bid Security shall be in favour of "Managing Director, RISL" payable at "Jaipur".	
Upload Date of Draft RFP	08/04/2026	
Period of Sale of Bidding Document (Start/ End Date)	08/04/2026 06.00 PM to 30/04/2026 04.30 PM	
Date/ Time/ Place of Pre-bid Meeting	- Date/ Time of Prebid: 10/04/2026 at 03:30 PM - Place: Committee Room, 6th floor, IT Development & E-governance, New IT Building, Mahatma Gandhi Rd, Jhalana Doongri, Jaipur, Rajasthan 302004. - Pre-requisite: Submission of tender fees as mentioned - Last date of submitting clarifications requests by the bidder: 10:00 PM, 11/04/2026. The prebid queries shall be submitted at dineshgurjar.doit@rajasthan.gov.in	
Manner, Start/ End Date for the submission of Bids	- Manner: Online at e-Proc website (http://eproc.rajasthan.gov.in) - Start Date: 28/04/2026 12.30 PM - End Date: 30/04/2026 till 04:30 PM	





Draft RFP for Upgradation (replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5 Years

Submission of Banker's Cheque/ Demand Draft for Tender Fee, Bid Security, and Processing Fee*	30/04/2026 till 04:30 PM
Date/ Time/ Place of Technical Bid Opening	- Date: 30/04/2026 ; Time 05:30 PM - Place: 6th floor, IT Development & E-governance, New IT Building, Mahatma Gandhi Rd, Jhalana Doongri, Jaipur, Rajasthan 302004.
Date/ Time/ Place of Financial Bid Opening	Will be intimated later to the Technically qualified bidders
Bid Validity	180 days from the bid submission deadline
Note: - Bidder (authorised 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 for Tender Fee, Bid Security, and RISL Processing Fee up to as mentioned in NIB, its Bid shall not be accepted. The Banker's Cheque/ Demand Draft 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 Address : e-Procurement Cell, RISL, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur - 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 RTPP 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 RTPP Act 2012 and Rules thereto, the later shall prevail.	


(Dinesh Gurjar)
SA (Joint Director)

2. PROJECT PROFILE & BACKGROUND INFORMATION

The Government of Rajasthan would leverage Information & Communication Technology (ICT) not only as a tool for improving governance and employment opportunities, but also more significantly as a means to enhance the quality of life and bridging the socio-economic divide in the State. The State Government intends to make conscious efforts to see those benefits of IT/ ITeS in terms of employment generation and economic up-liftment percolates to all sections of the society, particularly to those living in rural and remote areas.

e-Governance Framework includes

- Adherence to the vision of IT Policy 2007
- Standardization and Security Aspects
- Capacity Building
- End-to-end Service Delivery under:
 - Government to Citizen (G2C) Services
 - Business to Citizen (B2C) Services
 - Government to Government (G2G) Services

2.1. About RISL

RajCOMP Info Services Ltd. (formerly RajCOMP) is a fully owned Government of Rajasthan Company; it is a leading consulting organization in the field of Information Technology. RajCOMP Info Services Ltd. (RISL) operates under the aegis of Government of Rajasthan. RISL is designated State Designated Agency (SDA) for implementation of NeGP Components i.e. State Data Centre (SDC), State Wide Area Network (SWAN), Common Service Centre (CSC), State Service Delivery and other State's Mission Mode Projects (MMPs). RISL is also Technology Partner with departments like Agriculture, Election Department, State Election Department, JCTSL, Education Department, RHSDP etc. RISL takes up the activities of procuring and outsourcing of hardware, software, networking components and other products and services on behalf of Government Departments/ Organization(users).

2.2. About Forest Department, Govt. of Rajasthan

Subsequent to the establishment of a unified Forest Department in 1951, the forests have been brought under regular scientific management. The demarcation and settlement of Forest boundaries almost completed. Almost all forest blocks have been notified under Rajasthan Forest Act 1953. The forests of Rajasthan cover an area of 32,638.74 sq. km. which is 9.54% of the total geographical area of the state. They are spread unequally in northern, southern, eastern and south-eastern parts. Forest Status Reports, based on Satellite imagery Survey conducted by Forest Survey of India after every two years, has shown a definite increase of 3478 square kilometres area under tree cover between 1987 and 2001 in Rajasthan state. Rajasthan is one of the three states where there has been continuous increase in area under tree cover in these status reports. This is the result of the organized and successful a forestation effort of the department despite harsh climatic conditions and heavy biotic pressures on the forests in the state. The extent of Natural forests in Rajasthan is not only one of the lowest in the country but also in terms of productivity of forest, it is the lowest. On the contrary The State is endowed with the largest chunk of wasteland which is about 20% of the total wastelands of the country. Keeping in view the National Forest Policy and the State Policy on forests in order to achieve the desired forest cover, the state has twin objectives of conserving the forest areas through effective forest protection and simultaneously embark upon an ambitious afforestation Programme with a conscious approach in adopting clear development strategies.

2.3. Project Profile

The concept and architectural design of **Wildlife Surveillance & Anti-Poaching System (WS&APS)** is an **integrated software-based surveillance solution** equipped with high end thermal/ optical cameras, point to point wireless network & communication equipment, solar power system, drones etc. in hybrid model for protected areas of forest to achieve following objectives:

- a. Establishment of a 24X7 surveillance and anti-poaching system
- b. Automated monitoring of tiger or other identified wildlife species movements
- c. Significant Improvement in efficiency of response / rescue of any Wildlife Crime/ Animal respectively
- d. Strengthen prevention response mechanism against Wildlife/ Forest Crime
- e. System driven analytical reports for improvement operational level efficiency and effective decision making

The solution has been deployed at following forest/ wildlife locations of Rajasthan:

1. Ranthambhore Tiger Reserve (RTR), Sawaimadhopur
2. Sariska Tiger Reserve (STR), Alwar
3. Mukundra Hills Tiger Reserve (MHTR), Kota
4. Jawaibhag Leopard Conservation Reserve (JLCR), Pali

5. Jhalana Leopard Conservation Reserve (JhLCR), Jaipur

The WS&APS solution for each location consists of following components:

1. **Onsite Setups:** 30-45 Meter varying height Tower/Pole, Thermal & Optical PTZ cameras with the range of upto 8 KM for vehicle detection, Point to Point Radio setup, solar solution (Panels, PCU, Batteries etc.), aviation light, lightening arrester, industrial grade switches etc.
2. **Local Control Room Setup:** Modular Container, PAC, Servers, Storage, Switches, Router, 55" Displays, Computers, Comfort AC for monitoring room, Workstation cabinets, DG Sets etc.
3. **Miscellaneous Components:** Base Radio Station, Digital Radio Handset, Radio Over IP, Unmanned Aerial Vehicles with integrated mission planning, controlling and monitoring software
4. **Software/ Applications:** VMS, CCC, Analytics, helpdesk etc

The exquisiteness of the entire solution comes with the software part with all required features of VMS & Command Control Center software, Video Analytics, AI-ML based analysis etc. The analysis includes but not limited to intrusion detection, line crossing, motion detection but also poaching prevention algorithms like Critical Path Optimization, anomaly wildlife movement, species identification/ tagging etc.

Currently, the project has been implemented and live at 3 tiger reserves and 2 leopard conservation Reserves to conserve and protect forest areas & Wildlife species, as follows:

S.No.	Particulars	RTR	STR	MHTR	JLCR	JNP
1.	Containerized Local Control Room Setup	1	1	1	1	1
2.	Onsite Setups	12	16	16	4	8
3.	Wireless Communication Setup (Digital Handset)	50	50	50	10	15
4.	UAV Setup	1	1	1	1	1
5.	Software/ Application	VMS	VMS	VMS	VMS	VMS

3. QUALIFICATION/ ELIGIBILITY CRITERIA

3.1. Pre-Qualification Criteria for Bidders

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	A company registered under Indian Companies Act, 1956 OR A partnership firm registered under Indian Partnership Act, 1932. OR Limited Liability Partnership Firm Registered under Limited liability partnership Act- 2008 Note: 1. Bidder means a company. 2. Bidder has to meet each eligibility criteria to participate in this bid. 3. Joint venture/ consortium/ association is 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. A bidder cannot be partner in more than one consortium	- Copy of valid Registration Certificates - Copy of Certificates of incorporation -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-19
2	Financial: Turnover	Average annual turnover of the bidder/ either of consortium partners should be at least Rs 50 Crore from IT/ ITes* during the last three financial years (FY's, 2022-23, 2023-24 & 2024-25 OR FY's, 2023-24, 2024-25, 2025-26) as per last audited balance sheet. <i>* "IT Enabled Service" is defined as any product or service that is provided or delivered using the resources of Information and Communication Technology</i>	CA Certificate with CA's Registration Number/ Seal and Unique Document Identification Number (UDIN)
3	Financial: Net Worth	The net worth of the bidder or both consortium partners should be Positive and profit making as per last audited balance sheet.	CA Certificate with CA's Registration Number/ Seal and

S. No.	Basic Requirement	Specific Requirements	Documents Re-quired
			and Unique Document Identification Number (UDIN)
4	Technical Capability	1. The bidder or consortium partner must have successfully commissioned CCTV based Surveillance Project from financial years 2020-21 to till last date of bid submission for any Government Department / Government Agency / PSU in India for Supply, installation, commissioning and maintenance of IP cameras along with Video Management Software (VMS) and integration with NOC/Command Center, with a minimum work order Value of 10 Crore or More. Note: - The date of the orders and completion of a project or go live of the project should remain between 1st Apr. 2020 and last date of bid submission. - Projects executed with in the agency's own company, group of companies, Joint Venture companies shall not be considered. - Only one project will be taken for the evaluation in this criterion based on the PQ criteria mentioned above in this section. In case of more than one project, the first project will be taken in sequence of page number of technical bid document (ascending order), therefore bidders should ensure all required documents mentioned in this section for a project are to be submitted with technical bid.	Annexure-13 per project reference And Work Completion Certificates from the client; OR Work Order + Self Certificate of Completion+ Invoice with payment receipt statement (Certified by the CA with Unique Document Identification Number (UDIN)); OR Work Order + Phase Completion Certificate from the client (The phase completion certificate should indicate that the deployment of solution has been completed as per the Workorder. Values realised should be equal to or more than 10 Cr.)
5	Tax registration and clearance	The bidder or both consortium partner should have a registered number of - Income Tax / PAN number - GSTN where his business is located Note: Any certificate should belong to a date not later than the last day of bid submission.	Copies of relevant certificates of registration
6	Compliance to Land Border Policy	1. Bidder or both consortium partner should comply with Subrule 4 under rule 13 of RTTP 2013.	Copy of undertaking as per Annexure-07.

S. No.	Basic Requirement	Specific Requirements	Documents Required
		2. Bidder should comply with Order no. F.No. 6/18/2019-PPD dated 23.07.2020 issued by Ministry of Finance Department of Expenditure Public Procurement Division regarding the restriction under rule 144 (xi) of GFP 2017.	Or Copy of Registration with the Industries Department of the Government of Rajasthan
7	Mandatory Undertaking	Bidder or both consortium partner 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-4: Self-Declaration

3.2. Pre-qualification criteria of Original Equipment Manufacturer (OEM):

S.No.	Basic Requirement	Specific Requirement	Documents Required
1	Compliance to Land Border Policy for all OEMs of BoQ1 items.	OEM and it's Authorised Distributor (If any) should comply with Subrule 4 under rule 13 of RTTP 2013. OEM and it's Authorised Distributor (If any) should comply with Order no. F.No. 6/18/2019-PPD dated 23.07.2020 issued by Ministry of Finance Department of Expenditure Public Procurement Division regarding the restriction under rule 144 (xi) of GFP 2017.	Copy of undertaking as per Annexure-07. Or Copy of Registration with the Industries Department of the Government of Rajasthan

3.3. Technical Evaluation Criteria of Bidders:

If required to assess the technical competency of any bidder, the Procuring Entity (M/s RISL) may request a technical presentation and/or demonstration. The concerned bidder shall be required to arrange and deliver such presentation or demonstration as per the schedule and requirements communicated by the Procuring Entity.

3.4. Additional provisions for qualifications:

In addition to the provisions regarding the qualifications of the bidders as set out in above: -

3.4.1. The procuring entity shall disqualify a bidder as per the provisions under "Clause:Exclusion/Disqualification of bids in Chapter-5: ITB"; and

3.4.2. 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.

- 3.4.3.** RISL reserves the right to verify all statements, information and documents submitted by the bidder in response to tender document. The bidder shall, when so required by RISL, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of verification by RISL shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of RISL thereunder. If any statement, information and document submitted by the bidder is found to be false, manipulated or forged during verification process, strict action shall be taken as per RTTP Act 2012.

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

- The successful commissioning of the project requires the selected bidder to provide quality & timely services. The bidders are strongly advised to survey the existing sites and carefully understand the project sites, existing infrastructure, working environment and Scope of Work.
- The selected bidder shall survey the existing sites and shall provide infrastructure status report including the requirement of items replacement and the report will be evaluated at the RISL level and accordingly work order for items replacement will be given.
- The selected bidder shall take all precautionary action and shall ensure safety of all staff and if any accident happens to manpower or infrastructure including man-wildlife conflict, only the selected bidder shall be responsible for all actions.
- The selected bidder shall take handover of all existing items/equipment in the present conditions.
- The selected bidder shall repair or replace the items as per the survey report and RISL committee recommendations.
- If any items included in CAMC and found damaged then the selected bidder shall repair, replace or provide new items with same or better specification without any additional cost to RISL.
- The selected bidder shall ensure seamless camera live feed for surveillance and monitoring.
- The selected Bidder shall replace the Batteries regularly to ensure required power supply as per specification without any extra cost to RISL.
- The selected Bidder shall ensure the onsite solar solution to continue backup supply for minimum 30 hours for minimum 300 watt load and should be able to work in temperature up to 60 °C and with charging capacity to 90% within 6 hours without any extra cost to RISL.
- The selected bidder shall ensure that solar structure be stable in windspeed upto 160Km/Hr,
- The selected bidder shall check the earthings weekly and replace if required.
- The selected bidder shall ensure that any point of time diesel for 8 hours running of Command Centre (CCC) should be available in the tank of DG set.
- The selected bidder shall ensure integration of electrical items e.g. PAC, Online UPC etc. with WS&APS Phase-3 Electrical equipment management system
- The selected bidder shall provide 5 years onsite Comprehensive OEM warranty services for replaced items from date of project go live.
- The selected bidder shall provide 5.5 years Comprehensive annual Maintenance warranty/contract of all other existing active/passive/IT/Non-IT items.
- The selected bidder shall take all necessary actions to prevent damage to equipment arising from Theft, Vandalism, high voltage surges, failure of cooling systems, lightning, and adverse weather conditions including floods and thunderstorms, and shall be solely responsible for the repair, maintenance, or replacement of any damaged or burned equipment at no additional cost to the Tendering Authority/RISL. However, in the event of a Force Majeure (Act of God) or any incident beyond the reasonable control of the bidder, and subject to the condition that the bidder has taken all necessary precautions and due diligence to safeguard the system, the bidder may submit a formal request to RISL for SLA exemption and/or compensation for damages. Such requests shall be duly examined by the competent authority of RISL, and the decision taken in this regard shall be final and binding on the bidder.
- The selected bidder shall be responsible for all type configuration and integration required for smooth functioning of the system.
- The selected bidder shall replace the all existing batteries of onsite solar solution during Repair & maintenance phase before go live.
- If required, the selected bidder shall replace the items under CAMC with same or better specification after approval from project OIC.
- The selected bidder shall provide UAV/Drone with pilot for operations throughout Rajasthan as and when required by the tendering authority/Forest department.
- The selected bidder shall ensure the integration of WS&APS Phase-I various IT equipments (e.g. Cameras, Switches etc.) with ICCV and VMS software of WS&APS Phase-III (specification mentioned at **Annexure-26**).
- If user Department/Tendering authority requires any change for better monitoring and surveillance within the project scope the Bidder shall configure & upgrade the required Software & Hardware without any additional cost to RISL.
- The selected bidder shall deploy the required manpower as per scope and timelines.
- The selected bidder shall integrate the Cameras & Drones with ICCV & VMS to provide the below mentioned features without any additional cost to RISL.
 - The System should be able to Identify individual tigers from stripe patterns in close quarters

- The System should be able to identify the species of the animal, people, vehicle Object detected in the camera .
- The System should be able to provide GPS location and distance from the tower of the detected animals, people, vehicles,incident etc. in best possible manner with the capability of existng Cameras.
- The System should be able to categories alerts on the basis of severity and priorities as per Forest department requirements.
- The Alert should be send to concened officer on near real time basis with incidence location and other details.
- The selected bidder shall be responsible for end-to-end housekeeping, cleaning, and routine maintenance of the Command and Control Center during the entire contract period, including daily and periodic cleaning of all areas (video wall, workstations, floors, racks, and associated infrastructure), and anti-static cleaning materials, ensuring that all activities are performed safely without affecting the operation/uptime.

The bidder shall ensure following activities to complete the scope of work: -

4.1. Repair/replacement of WS&APS Phase-1 Components and Operation & Maintenance Services of Phase-I components :

Phase-I of the project was incepted in year 2017 and go-live was given to Phase-I in Dec. 2019. During the deployment and O&M period of Phase-I, requirement of repair/replacement/Upgradation of equipment has been observed.

The list of existing deployed items in Phase-I is **enclosed at Annexure-20** for reference and the bidder shall ensure repair/replacement/upgradation as per the specification mentioned at Annexure-11:

S. No.	Particulars	Remarks
1	Replacement of items with buyback along with 5 years onsite comprehensive warranty from date of project go live	As per BoQ1
2	Comprehensive annual maintenance contract of all remaining items for 5.5 years	As per BoQ2
3	FMS with manpower for 5.5 years	As per BoQ3
4	Repair and Maintenance	As per BoQ4

To keep solution up & running, the selected bidder shall repair/ replace/upgrade the items deployed in Phase-I at onsite and CCC as and when required.

To upgrade the above-mentioned items, the selected bidder shall perform required activities mentioned at clause no. 4.1.1. to 4.1.7.

4.1.1. Study and Design of WS&APS Infrastructure Components for Phase-I:

- a. The Selected bidder will undertake detailed study of forest sites/ wildlife sanctuaries/ protected areas/locations as and when required.
- b. The selected bidder shall study the ICCC & VMS, Electric equipment management software of WS&APS Phase-III for integration.
- c. The study includes but not limited to study of terrain w.r.t. surveillance system, existing infrastructure or mechanism of surveillance and identification of critical areas & factors of the identified site.
- d. The selected bidder shall prepare and submit the detailed report of existing infrastructure with present status and requirement of items replacement.
- e. A committee at RISL level shall evaluate the survey report and recommend the items replacement requirement for further processing and work order.
- f. Based on the study of each identified site and existing infrastructure, the selected bidder will plan the repair/replacement/upgrade of items with the required foundations/ structures/ network/ electricity circuits/ items/ equipment with all possible third-party applications/ solution integration.
- g. During the study and design of the solution, the selected bidder should ensure that the solution is aligned with IT architecture and IT policy of Govt. of Rajasthan and able to achieve Strategic objective of Department of Forest.
- h. The solution shall be designed considering optimum utilization of all existing IT &Non-IT infrastructure/ common infrastructure.
- i. The prepared solution/plan of upgradation/repair/replacement of each site after the study shall be submitted by the bidder for Final approval from DOIT&C/ RISL.

4.1.2. Upgradation & Maintenance of WS&APS Infrastructure Components of Phase-I:

- a. All required items according to the scope shall be repaired, supplied, integrated, installed and commissioned at the identified sites.
- b. **Civil Work:**
Required foundation and civil work with proper finishing of structure through weatherproof painting shall be done by the selected bidder for installation/ commissioning/Upgradation/Repairing/Maintenance of onsite setup, solar solution, modular containerized data center & Control room setup including DG sets. The selected bidder will ensure quality of the material used for foundation or other required civil work. The regular periodic maintenance work shall be carried out by the selected bidder during entire contract period. Wherever required the bidder has to do environment enabling work to reach the sites in the forest area and to protect infrastructure/equipment from weather related issue e.g., Thunderstorm, Heavy Rain, severe heat & cold etc. If any infrastructure/equipment damaged due to any above-mentioned weather-related conditions, then all cost of the burned equipment repair/replacement shall be borne by the selected bidder without charging any additional cost to tendering agency/RISL.
- c. **Electricity work:**
The required electricity connection at Local CCC has be arranged by RISL/ user department in coordination with respective electricity providers of the location to the best possible nearest point (Electricity Meter). From this point, the all required work for further electricity distribution to DG set and local control room setup shall be done by the selected bidder. The required under ground cabling, Surge protection & Lighting protection, Earthing, conducting, voltage surge protection, earthing etc. shall also be carried out by the selected bidder.
So if any incidence of equipment burning due to High voltage surge or Lighting happens at CCC/Onsite setup then all cost of the burned equipment repair/replacement shall be borne by the selected bidder without charging any additional cost to tendering agency/RISL.
- d. All required hardware/ items/ software should be supplied with all required installation material/accessories for proper installation and commissioning at respective site.
- e. Upon successful installation (wherever applicable) of all the supplied Hardware/ Software, the SI shall submit installation and commissioning reports (in original) duly verified by the respective nodal officer/TPA/ end-user.
- f. The Selected bidder has to provide five years of comprehensive warranty on supplied Items/ hardware/ software for the surveillance solution from the date of installation.
- g. The selected bidder shall deploy entire solution along with establishment of control room and monitoring room at each identified site according to approved solution for the respective site.
- h. The selected bidder shall ensure availability of feeds of all cameras atleast for 3 months and all incidents/cases/alert logs with videos/images atleast for 5 year.
- i. The list of items/ equipment/ hardware/ software may vary according to location's actual requirement, existing infrastructure and depends upon the critical factors identified for the site at the time of study.

Note:

- I. Operational cost w.r.t. fuel of DG set and electricity shall be borne by GOR on reimbursement basis on actual on submitting original bill in name of RISL.
- II. Furthermore, the selected bidder should ensure all required measures as per wildlife regulations while execution of work in wildlife areas.

4.1.3. Integration of commissioned solution with existing / upcoming third party applications/ solutions:

- a. The Selected bidder shall ensure that design of the solution includes all possible integration with third party applications/ systems/ solutions which are existing or coming in the future as and when required.
- b. The integration of commissioned solution e.g. ICCV, VMS of WS&APS Phase-III etc. shall be done by the SI through providing requisite interfaces/ information.
- c. The developed infrastructure of the solution at each identified site shall be utilized for deployment of other third-party solution/ increase efficiency/ effectiveness of those solution considering all possible factors of cost, environment and departmental interest.
- d. The Selected Bidder shall provide requisite support and information for the same to implement the integration.
- e. The deployed components/ equipment would be integrated with district/ divisional and central control room wherever it is required. Further, the captured raw data through the system would generate analytical and statistical reports.
- f. The deployed infrastructure would be utilized in forest protection or any development activity as per requirement of Forest and DOIT&C.
- g. The complete application shall be developed considering integration possibilities with the following third-party applications/ systems in DOIT&C/ RISL:

- Existing (Please refer Annexure-20) & upcoming WS&APS Application & solution (Please refer Annexure-11)
- RAJDHARAA – State Wide Unified GIS platform for the State of Rajasthan.
- GIS map with GPS system to be provided by Government of Rajasthan
- Mobile Service delivery gateway (SMS gateway)
- SSO
- FMDSS
- RAAS
- Stateportal
- CM Dashboards
- Various analytical tools (SAS, Tableau, Qlik etc.)
- Rajnet
- State Data Centre
- Raj e-sewadwar
- h. The application/software shall be scalable and integrable with crowd pooling & social media platforms based on the requirement posed by RISL.
- i. The integration possibilities/ solutions will be envisaged and deployed gradually during the entire period of contract and the selected bidder/ SI shall integrated the application/ Software with the identified applications/ system as and when required.
- j. Department will have different communication devices like IP Phones, UHF/VHF or GSM which will work independently in their group, This solution should provide intercommunication between all this different mode of communication devices when ever required in case of emergencies like fire, natural disaster etc. This will help authorizes to communicate between different teams to take decision faster in quick time to tackle the emergency situation.

The cost effective and performance-oriented system would be designed with minimum environmental affects permissible by Forest Department.

4.1.4. User Acceptance Testing (UAT):

The selected bidder would be responsible for: -

- a. Preparation and submission of detailed UAT plans, procedures and formats which includes but not limited to:
 - i. **Performing Hardware Testing:** The bidder shall be required to share the testing documents and standards such as console screen shots, compliance sheet, datasheet, demonstrable feature details etc. with the designated team, wherever applicable/ required.
 - ii. **Performing Overall System Testing:** conducting and demonstrate testing of overall solution as per the solution document finalised to achieve Go-live/ commissioning/installation stage of the solution.
- b. If bidder proposed new software/VMS solution then final approval/ user acceptance of the software and system shall be given by DOIT&C/ RISL after successful implementation and testing. This is the responsibility of the bidder to obtain the UAT approval from the DOIT&C / RISL.

4.1.5. Third Party Audit (TPA):

- a. **For the new foundation, super structure/ civil structure,** the selected bidder will also provide structural safety certificate of pole/tower from a graduate structural engineer who should be a member of Institute of Engineers (India).
- b. The bidder will also provide assistance to RISL team or RISL's appointed TPA for audit of civil/ electrical/ IT infrastructure/ hardware and security audit/ safe to host certification for application/ software (if required) considering it's requirement/ cruciality of the component as and when required by RISL to ensure quality.
- c. Based on the audit reports submitted by the TPA, the selected bidder shall make the required changes at no extra cost.

4.1.6. Commissioning (Go-Live)

- a. Only after the acceptance of UAT and reports of TPA/ Designated Authorities by RISL, the deployed/upgraded equipment/ components would be deemed to have been commissioned/Upgraded/Maintained.
- b. After the successful commissioning of the equipment/component and sign-off from RISL/DOIT&C on commissioning/ UAT reports, the services of O&M phase will be provided by the bidder for thoes commissioned components till the date of go-live declared for the entire system by RISL/DoIT&C without any extra cost.

4.1.7. Training and Capacity Building:

The selected bidder shall be responsible for hands-on trainings & refresher trainings of identified Officials on deployed components. The training shall include but not limited to:

- a. How to use Application/ software components for monitoring & fetching requisite reports
- b. How to operate various components i.e. camera controlling, UAVs, Digital Handsets, Portal etc.

- c. How to monitor entire forest site through web based portal and mobile application.
- d. The bidder shall prepare training schedule, user manuals and update those user manuals as and when required.
- e. Atleast 10 forest officials for each site shall be trained on entire supplied solution. Subsequently during warranty support period the selected bidder may be required to provide additional trainings due to change in manpower.

4.1.8. Operation & Maintenance Services for Deployed WS&APS Infrastructure in Phase-I:

The selected bidder is responsible to provide all required O&M services for WS&APS Phase-I. The selected bidder shall provide 5 years Comprehensive OEM warranty services for upgraded items from date of installation and shall also provide 5.5 years Comprehensive Annual Maintenance Contract warranty of remaining items from date of Go-live.

The selected bidder shall take all necessary actions e.g. proper earthing, routine maintenance etc. to prevent equipment damage due to high voltage surge, lighting and weather conditions (Flood, Thunderstorm etc.), and if any equipment damaged/burned due to above mentioned reasons, the selected bidder shall bear the all cost of repair, maintenance and replacement of the damaged/burned equipment without charging any extra cost to tendering authority/RISL.

The selected Bidder has to provide centralized helpdesk which will work as a single point of contact for complaint management & resolution for all the users of the WS&APS deployed at each location. The helpdesk shall be designed to meet the SLA response & resolution timelines.

A. Asset Management Services

- a. The SI shall be required to create and maintain database of all existing and upgraded items like cameras, poles, sensors etc. provided by DOIT&C and all other supplied items installed in each location under WS&APS Project as per following details:
 - The database should have information like make, model, configuration details, serial numbers, licensing agreements, Geolocation, warranty and AMC details, place of installation, username, password, ip _address etc.
 - The SI shall be 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 shall be required to record installation, removal and replacement of any equipment and inform concerned nodal officer of the location and RISL, even if it is temporary. All entry and exit of assets shall be recorded and report of the same shall be provided to concerned nodal officer of each location and to RISL at the end to each month.
- c. The SI shall be required to register all software with respective OEMs.
- d. The SI shall be required to perform software license management.
- e. The SI shall use web based software/ interface in WS&APS for Asset Management Services. Viewing Rights on the software/ interface shall be provided to nodal officer of concerned location and RISL.
- f. The SI shall ensure availability of 24x7x365 video feed/signals from all cameras and sensors during the complete project period. In case of any camera/sensor/pole etc. (Items under warranty/maintenance of SI) being non-functional or irreparable, SI shall ensure repair /replacement of the equipment as per SLA at no cost to tendering authority.
- g. The SI shall hand over all the assets handed over by DOIT&C to SI of similar or higher configuration to the tendering authority on completion of project period.

B. Preventive Maintenance Services

The Selected bidder shall 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. Selected bidder intimate and take approval from RISL/DoIT before carrying out preventive maintenance activity.
- d. Selected Bidder shall maintain a register of item wise preventive maintenance done.

C. 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 also include all passive components including, screws, clamp, fasteners, ties anchors, supports, ground strips, wires, gears, spares, power-cables, network cables, connectors/ sockets etc.
- f. Maintenance support services pertaining to electric and network cabling shall include:
 - Removing and laying of cable and I/Os with casing, etc in case renovation/ other activity is undertaken at location covered under the project.
 - Replacement/repair of Network/Power cables & connectors/ ports/ equipment of entire WS&APS deployed.
 - Maintenance of cables and conduits of equipment procured
- g. Documentation of problems, isolation, cause and rectification procedures for building knowledge base for the known problems which shall be incorporated in the system.

D. Configuration and reconfiguration/rollback of equipment/network/services

- a. Date and time of all edge equipment shall be synchronized with Local and Divisional/Central Control room.
- b. The SI shall be responsible for configuration/re-configuration/rollback of all the equipment /Software /services under this project as and when required.
- c. The SI shall maintain a record of hardware and software configurations of all equipment including the details of different policies implemented on the devices such as, connection Queries/ APIs/ VLAN configurations, access control lists, routing filters, clustering details etc. SI shall keep regular backups of the configurations of each of the devices.
- d. SI shall 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.
- e. SI shall do proper version management of these configurations.
- f. SI shall 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 DOIT&C/ GOR.

E. Department/Vendor Management Services

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

- a. Maintain equipment/software/service wise database of the various OEMs/ authorized agencies 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.
- b. Log and escalate the calls with respective OEM/ authorized agencies/service providers after occurrence of incident/ problem, repetitive pursuance and coordinate with them to get the equipment repaired/problems resolved.
- c. Liaison with concerned departments for electric connection and permission/NOC if required.

F. Network Management Services

The scope of work under network management services would include -

- a. Configuration/Reconfiguration/deployment and Management of various policies like Security policies, Access policy, IP Policy, routing policy, firewall policies etc. including but not limited to opening/closing of specific ports on network devices.
- b. Performance tuning to ensure resilient performance, reliability and high availability of the network services.
- c. Monitoring of radio's bandwidth/ internet bandwidth / links.
- d. The SI shall coordinate with RSWAN Team for integration of RSWAN network with WS&APS Network as and when required.
- e. SI to establish interface link between last mile of connectivity provided by RISL/DOITC and the local control room of WS&APS using radio/network and electric cable.

G. Equipment (Camera, Pole, Switch, radio etc.) Management Support

- a. SI to provide all required equipment/ apparatus/ tools (24x7) to its support team at each location for operation and maintenance of all edge equipment installed in the location for WS&APS.
- b. SI shall maintain and configure camera, as and when required and provide services, such as relocation of cameras, or adding or removing accessories attachment or other devices/peripherals.
- c. SI shall maintain record of all new cameras installed, movement of cameras within site, changes and configuration of cameras.
- d. SI shall arrange/download from internet and load drivers of peripherals, as & when need arise.
- e. SI shall configure/reconfigure cameras/ switches/ radio devices/ other devices to ensure optimum network connectivity and applications/service availability to all users.
- f. SI shall re-establish network connectivity and application availability after any hardware/software failure.

H. Helpdesk Management:

Each site of WS&APS 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 deployed system and incident response system. A SLA monitoring and Helpdesk Management tool shall be developed in integrated manner with the system. The helpdesk shall be designed to meet the SLA response & resolution timelines.

- a. SI shall provide centralized helpdesk number and email for reporting any issue which shall be shown in the WS&APS system's dashboard.
- b. SI shall 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 and forward the same to concerned O&M team/person, Project OIC(s) and user.
- c. Once the issue has been logged the ticket no. shall be generated and will be assigned to L1 support team i.e. O&M team of the site.
- d. The ticket shall be escalated as per escalation matrix if it is not resolved.
- e. L2 and L3 support team in the escalation matrix shall be provided by the selected bidder and shall be integrated in the helpdesk tool for ticket management for resolution of the issue without any extra cost.
- f. SLA calculation will be generated from the system based on the tickets logged.
- g. All O & M reports for each deployed system shall be generated from the helpdesk tool and the report shall have all relevant details of each SLA provisions mentioned in the RFP.
- h. The SI shall provide 24 x 7 help desk support for entire WS&APS deployed at each identified location.
- i. The SI shall 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 shall get approval from the officer in charge of the project. 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.

I. Onsite Manpower Deployment:

The bidder shall provide the minimum dedicated manpower onsite mentioned in the scope at RISL/User Department/ Other Designated Department for day-to-day operations and maintenance of the overall project as per the awarded scope of work. The bidder, if required, with prior permission from RISL, may also deploy additional manpower for smooth functioning of the project and at no extra cost.

The bidder, with the help of the deployed manpower, shall be responsible for:

- i. WS&APS Administration support with end to end management of the helpdesk by logging and resolving the complaints of the various locations to ensure that the solution is functioning as intended and that all the problems associated with the operations are resolved satisfactorily.
- ii. Ensuring the each and every component of deployed works properly
- iii. Providing first level of support (L1) for logging and resolution of the complaints for any component of WS&APS of the location.
- iv. Supervision and training of personnel of user department on new features added to the implemented WS&APS.
- v. **Project Management & Implementation Support Staff:** The project management staff should be capable to coordinate, manage, integrate the various components of WS&APS. The provided manpower under this category shall :
 - o Implement End to End project activities mentioned in the scope of the work in the RFP.
 - o Provide assistance to other stakeholders by way of assisting them in solving challenging problems, sharing technical knowledge and adhering to quality processes.
 - o Ensuring that project deliverables are met and project time is maintained
 - o Generate reports and maintain all the relevant project documentation
 - o Work as an onsite coordinator of the project and as a SPOC to all team members and stakeholders for Issue resolution and Escalation Management
 - o Conduct review of implementation progress, manage the scope and timelines of implementation
 - o Provide technical support to operational support staff.
 - o Provide requisite support to UAV pilot.
 - o Implement any required project activity as and when communicated by DOIT&C/RISL
 - o Any other task for the project as and when required or directed by RISL/DOITC.
- vi. **Staff for Control Room:** The required staff for control room should be ready to work in shifts for 24X7. The deployed staff for control room shall have experience in System cum Network Administration.
- vii. **Pilot for UAV:** The selected bidder for UAV shall provide and deploy a pilot for each UAV flying. The pilot should be trained and well versed about the supplied UAV solution. The pilot shall be appointed at the place where the UAV has been deployed or as per requirement of DOITC & RISL. The pilot may be called anytime to fly UAV all over Rajasthan considering cruciality of the requirement of flying. The deployed pilot is responsible and accountable for UAV setups' operations during the entire contract period.
- viii. The minimum required technical qualifications and experience details for the aforementioned manpower are mentioned below:

S.No.	Resource	Desirable Qualification and Experience	Shifts and Number of Resources	Deployment period
1.	Project Management & Implementation Support Staff	• B.E/ B.Tech /B.SC(IT) /MCA/ Any Master Degree • Certification Preferable (Microsoft/ SCRUM /PMP/ Prince2) • Fluency in English/ Hindi 5+ years of post-qualification and relevant work experience in project management and implementation of IT infrastructure project of experience at similar kind of Scope mentioned in the RFP.	Atleast one Resource in Regular Shift (9.00AM-6:00 PM)	Entire Project Duration

S.No.	Resource	Desirable Qualification and Experience	Shifts and Number of Resources	Deployment period
2.	Operational Support Staff	Staff for Control Room: 12Th/ITI/ Graduate or better. - Government approved Computer Proficiency Degree or Certificate. - Fluency in English/ Hindi 1+ years of post-qualification and relevant work experience in IT infrastructure/ Networking.	Morning Shift (06:00 AM to 02:00 PM): 2 Resources Evening Shift (02:00 PM to 10:00 PM): 2 Resources Night Shift (10:00 PM to 06:00 AM): 2 Resources Note: -The selected bidder has to deploy minimum 06 resources at respective Command centres and ensure their availability as per above-mentioned shifts on all days including holidays. Also the selected bidder shall deploy 1 resource in addition to above during general shift (9.00AM-6:00PM) at Central command center, Aranaya Bhan, Jaipur	Entire Contract Period
3.	UAV Operator	- ITI/ Graduate or better - Fluency in English/ Hindi - Should be technically qualified, trained and have sufficient experience in flying of UAV independently with desired expertise to handle UAV setup as per DGCA guideline. Note: In case of any change in the DGCA guideline w.r.t. UAV Operator during entire period of contract, the bidder will ensure the applicable changes in UAV operators without any extra cost to RISL.	One Operator with one UAV setup in Regular shift (9.00AM-6:00 PM) and may be called anytime in critical requirement.	Entire contract period

To meet defined SLA requirement, the Bidder may deploy additional manpower at no cost to tendering authority. In case of no flight schedule/ call/ requirement of flight of UAV, the bidder may utilize the UAV operator as additional Staff for Control Room.

- ix. Also, it would be the responsibility of the bidder to retain the deployed manpower for the entire Contract/ Project duration or in the event of a resource leaving the employment with the bidder, the same shall be notified well advance in time to DOITC/ RISL and thereafter be immediately replaced with another resource of equivalent minimum required qualifications and experience.
- x. The staff provided by the bidder will perform their duties in accordance with the instructions given by the designated officers of RISL from time to time. RISL may examine the qualification, experience etc. of the personnel provided before they are put on positions. The bidder has to take approval from RISL for the proposed staff before their deployment. RISL reserve the right to reject the personnel, if the same is not acceptable, before or after commencement of the awarded work/ project.

- xi. At no time, the provided manpower should be on leave or absent from the duty without prior permission from the designated nodal officer of RISL. In case of long term absence due to sickness, leave etc. the bidder shall ensure replacements and manning of all manpower posts by without any additional liabilities to RISL. Substitute will have to be provided by the bidder against the staff proceeding on leave/ or remaining absent and should be of equal or higher qualifications/ experience.
- xii. As Hindi is Official Language of the Government of Rajasthan, the bidder has to appoint personnel having proficiency with Hindi language.

4.2. Roles and Responsibilities:

4.2.1. Responsibilities of RISL/DoIT&C

The role of RISL/ DoITC in the successful implementation of the solution includes discharging the following responsibilities:

- To coordinate with other government agencies and Department
- Review and approve the solution, implementation approach, and other reports as submitted by the selected bidder.
- To provide necessary support during the project contract period, sharing of sample reports and other IT infrastructure requirements.
- To conduct review meetings at defined regular intervals to monitor the overall progress of the project.
- Provide feedback on changes to be in the solution to improve usability of the entire solution including software components.
- Report problems/ issues/ bugs in solution to the selected bidder for immediate action/ rectification.
- Prioritize the change requests as per project objectives.
- Evaluate and approve the effort estimates (for change requests) provided by the selected bidder for design, development and deployment of the solution.
- Co-ordination with the RSDC Operator and other stakeholders of the project.
- To ensure timely project milestones sign offs.
- To approve and oversee the proposed training plan
- Set up and administration of escalation mechanism
- Review and approve the Payments to the bidder as per SLA.
- Any other help/ assistance/ co-ordination required for the successful implementation and operations of the work/ project.

4.2.2. Responsibilities of RFD, GoR

The roles and responsibilities of the RFD shall be as follows:

- To ensure active participation from the departmental users
- To identify and appoint nodal officer for facilitating the project operations
- Explain the functional requirements in detail to the selected bidder
- To conduct review meetings at defined regular intervals to monitor the overall progress of the project.
- Provide feedback on changes to be in the solution to improve usability of the solutions.
- Prioritize the change requests as per project objectives.
- To ensure timely project milestones sign offs
- To approve and oversee the proposed training plan
- To ensure close coordination of all the participants and the external agencies involved in the project.
- To review the installation, commissioning and maintenance of the solution
- To ensure atleast one forest official should be with maintenance staff at each identified site during maintenance of onsite setup.
- To take steps to mitigate any potential risks that might surface during the course of the project
- Set up and administration of an issue and escalation management process.
- To identify the staff at various levels who need to undergo user training
- To identify employees who needs to be trained by SI for learning the technical aspects of the WS&APS solution.
- Review of system requirement specifications, system design, hardware sizing/scrutiny of deliverables for their compliance with RFP specifications
- Review content, methodology and pedagogy for user training
- Review the documentation provided by the Bidder and verifies that it conforms to the requirements.
- Periodic SLA monitoring of the system deployed by the successful bidder
- To ensure timely release of the payments as per agreed schedule.

4.2.3. Responsibilities of the Selected Bidder/ SI

The following are the roles and responsibilities of the selected bidder to be selected for operations & maintenance of the solution at identified sites of RFD, GoR.

- To study the existing solution & design/infrastructure and operate & maintain a secure, scalable solution for the RFD.
- Adopting open, interoperable standards by following international and national industry and government standards
- To provide training and workshops to the departmental users at various levels as per requirement
- To provide full documentation of the design, installation and implementation of the WS&APS along with user Training Manuals and other training related documentation
- To interface with Project Coordinator, Project Consultant, Data Centre host, local nodal officers and other key resources for facilitating smooth project management.
- Change Management Plan: Plan for changes to be made to include drawing up a task list, decide on responsibilities, coordinate with all the affected parties, establish and maintain communication between parties to identify and mitigate risks, manage the schedule, execute the change, ensure and manage the change tests and documentation.
- Perform User Acceptance Testing if required
- To ensure successful integration of the system with other available solutions or applications
- To get the security audit done from third party, as specified by RISL
- Operations & Maintenance of the solution to include: -
 - System administration, including but not limited to management of users, processes, preventive maintenance and management of updates & patches to ensure that the system is properly updated
 - Event log analysis generated in all the sub systems including but not limited to servers, cameras, solar power systems, operating systems, databases, applications, security devices, messaging, etc. ensuring that the logs are backed up and truncated at regular intervals.
 - Sufficient inventory of each item shall be maintained at each forest site for replacement of faulty items
- Issue escalation matrix shall be provided for each identified site/ location.
- Reports: The SI shall submit the reports on a regular basis in mutually decided format and intervals. The following is only an indicative list of reports that may be required:
 - Daily reports/ Weekly Reports/ Periodic Reports
 - Summary of resolved, unresolved and escalated issues / complaints
 - Summary of resolved, unresolved and escalated issues / complaints to vendors
 - Log of backup and restoration undertaken
 - Issues / Complaints Analysis report for virus calls, call trend, call history, etc.
 - Summary of changes including major changes like configuration changes, patch upgrades, database reorganization, storage reorganization, etc. and minor changes like log truncation, volume expansion, user creation, user password reset, etc.
 - Consolidated SLA (non)-conformance report
 - Summary of site wise solution uptime
 - Consolidated site wise availability and resource utilization
 - IT Security Audit/ web audit Report
 - Incident Reporting
 - Detection of security vulnerability with the available solutions / workarounds for fixing

- Hacker attacks, Virus attacks, unauthorized access, security threats, etc. – with root cause analysis and plan to fix the problems
- Software license violations
- To prepare user feedback process and forms for getting feedback on service level parameters in consultation with Department and conduct user feedback survey at intervals to be defined by Department.
- The selected Bidder will carry out the activities as indicated in this section of RFP and submit all the mentioned deliverables within the stipulated time-frame.
- The selected Bidder will ensure that the time lines will be adhered to. If there are any perceived slippages on the timelines, the selected Bidder would deploy additional manpower, free of any additional charges.
- The selected Bidder will ensure compliance with the project SLAs.
- The selected Bidder will make the best effort to ensure that the quality of deliverables meets the expectations.
- The Selected Bidder would get the relevant sections of deliverables, particularly the deliverables of the Application development / Customization phase, duly verified/ validated from the concerned Departmental officer / official.
- The deliverables will be accepted only if they confirm to the specifications as laid down in this RFP. Deliverables of the selected Bidder will be considered to have been formally accepted only after the Department communicates so in writing. Any queries regarding the deliverables will have to be answered by the selected Bidder within 5 working days.
- The selected Bidder will share all intermediate documents, drafts, reports, surveys and any other item related to this assignment. No work products, methodology or any other methods used by the selected Bidder should be deemed as proprietary and non-shareable.
- The selected Bidder would submit hardcopies and softcopies of all the deliverables to Department as per timelines specified in the RFP.
- Bidder would be required to coordinate with the State Nodal Agency, local nodal officers for deployment of WS&APS.

Table for O & M Reports:

Sr.	Scope of Work	Activity	Deliverable	Timeline
•	Facility Management Service	I. Asset Management Services	List of Hardware/Software with all details as mentioned in scope of work Asset management service clause.	Within 15 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.	
•		III. Corrective Maintenance Reports	Equipment wise and date wise detailed and MIS reports of corrective maintenance services provided during the quarter	
•		IV. Department/Vendor Management Report	Calls logged with external vendor-based clause with required details.	

•		V. Network Management Report	Network up time report of all network devices and network connectivity links/ leased lines.	
•		VI. 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.	
•		VII. Desktop Management Report	a. OS details, configuration details. b. Installed software details. c. USB/Internet access details	
•		VIII. Virus Management Services	Anti-Virus Server signature update report from Server b. Last Scan reports for clients	
•		IX. Storage Management Report	Storage Free and Consumed user space details. b. Current utilization reports	
•		X. Service Levels	Service Level Reports: A. Manpower/resources attendance signed from OIC, or any mechanism directed by RISL. B. Logged tickets reports from helpdesk tool.	
•		XI. Any other reports as required by RISL/DoIT	Customized format	As per requirement

4.3. Project Deliverables, Milestones & Time Schedule

Refer chapter 7 SPECIAL TERMS AND CONDITIONS OF TENDER & CONTRACT clause 7.1) Payment Terms and Schedule.

5. INSTRUCTION TO BIDDERS (ITB)

5.1. Bidding Procedure:

The procedure of bidding in this RFP is National Competitive Bidding (NCB).

5.2. 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 authorised sole selling agents/ marketing agents/ distributors/ sub-distributors and authorised dealers or vice versa.

5.3. 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.

5.4. 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:
Provided that the Bid last submitted or the Bid as modified by the bidder shall be considered for evaluation.

5.5. 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.

5.6. Format and Signing of Bids

- a) Bidders must submit their bids online at e-Procurement portal i.e. <http://eproc.rajabsthan.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
- b) The technical bid shall consist of the documents as per Annexure-2 in the sequence mentioned in the annexure.
- c) Financial bid shall include the following documents: -

S. No.	Documents Type	Document Format
1.	Financial Bid – Covering Letter	On bidder's letter head duly signed by authorized signatory as per Annexure-15 (FBCOVER.PDF)
2.	Financial Bid– Format	As per BoQ (.XLS) format available on e-Procurement portal (Annexure 15)

- d) 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/ contents may lead to the rejections of the Bid submitted by the bidder.

5.7. 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.

5.8. Alternative/ Multiple Bids

Alternative/ Multiple Bids shall not be considered at all. Also, the bidder shall not quote for multiple brands/ make/ models but only one in the technical Bid and should also mention the details of the quoted make/ model in the "Annexure-9: Components Offered".

5.9. 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. 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 supply of the goods or service or execute work as per supply/ 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.

5.10. 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.

5.11. Withdrawal, Substitution, and Modification of Bids

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

5.12. 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 authorised 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.

5.13. Selection Method:

The selection method is lowest evaluated technically responsive bid based on submitted bid amount.

5.14. 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.

5.15. 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, 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. However submission of any shortfall document in pursuance to the subclause (b) should of the such that no such document will be allowed to be submitted which belongs to a period later than the last day of bid submission.
- d. 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) 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.

5.16. 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 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. Bid offer value shall be calculated as Bidder offer value= Price quoted for BOQ1+ Price quoted for BOQ2+ Price quoted for BOQ3 + Price quoted for BoQ4.
- f. 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.
- g. 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. In case quality is also a criteria and the combined score of technical and financial evaluation is considered
- h. 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, if price is the only criterion, or most advantageous Bid in other case
- i. The members of bids evaluation committee shall give their recommendations below the table regarding lowest Bid or most advantageous Bid and sign it.
- j. 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.

5.17. 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.

5.18. 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.

5.19. 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.

5.20. 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.

5.21. 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 accounts 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.

5.22. 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 shall 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 shall be referred to the next higher authority in delegation of financial powers for decision.
- c) Before award of the contract, the procuring entity shall 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.

5.23. 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.

5.24. 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 (if the original order was given after inviting open competitive Bids). Delivery or completion period may also be proportionately increased. The limits of repeat order shall be as under:
 - 1) 50% of the quantity of the individual items and 50% of the value of original contract in case of works; and
 - 2) 50% of the value of goods or services of the original contract.

5.25. 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 5%, or as may be specified in the bidding document, of the amount of supply order in case of procurement of goods and services. In case of Small Scale Industries (SSI) of Rajasthan, it shall be 1% of the amount of quantity ordered for supply of goods and in case of sick industries,

other than SSI, whose cases are pending before the Board of Industrial and Financial Reconstruction (BIFR), it shall be 2% of the amount of supply order.

- c) Performance security shall be furnished in any one of the following forms: -
 - a. Bank Draft or Banker's Cheque of a scheduled bank;
 - b. 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;
 - c. 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;
 - d. 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.
- d) Performance security furnished in the form specified in clause [b.] to [d.] of (c) above 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.
- e) 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.
- f) Notice will be given to the bidder with reasonable time before PSD deposited is forfeited.
- g) No interest shall be payable on the PSD.

5.26. Additional Performance Security:

In addition to Performance Security as specified above, an additional performance security shall also be taken from the successful bidder in case of unbalanced bid according to the rule 75A of RTPP rules. 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.

For the purpose of this rule:

- a. Unbalanced Bid means any bid below more than fifteen percent of Estimated Bid Value.
- b. Estimated Bid Value means value of subject matter of procurement mention in bidding documents by the Procuring Entity.
- c. Unbalanced Bid Amount means positive difference of eighty-five percent of Estimated Bid Value minus Bid Amount Quoted by the bidder.
- d. The Additional Performance Security shall be refunded to the selected 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 selected bidder.

5.27. Execution of agreement

- a) A procurement contract shall come into force from the date on which the letter of acceptance or letter of intent is despatched to the bidder.
- 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 despatched 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 or most advantageous bidder to the next lowest or most advantageous bidder, in accordance with the criteria and procedures set out in the bidding document.
- 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.

5.28. 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 authorised 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.

5.29. 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.

5.30. CONFLICT OF INTEREST

(1) A conflict of interest for bidders is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations.

(2) A Bidder may be considered to be in conflict of interest with one or more parties in a bidding process if, including but not limited to:-

- (a) They have controlling partners in common;
- (b) They receive or have received any direct or indirect subsidy from any of them;
- (c) They have the same legal representative for purposes of the bid;
- (d) They have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another;
- (e) A bidder participates in more than one bid in the same bidding process. However, this does not limit the inclusion of the same sub-contractor, not otherwise participating as a bidder, in more than one bid; or
- (f) A bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the subject matter of procurement of the bidding process. All bidders shall provide in Qualification Criteria and Bidding Forms, a statement that the bidder is neither associated nor has been associated directly or indirectly, with the consultant or any other entity that has prepared the design, specifications and other documents for the subject matter of procurement or being proposed as Project Manager for the contract.

5.31. 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 include 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.

5.32. Price Fall

If the bidder quotes/ reduces its price to render similar goods, works or services at a price lower than the work order / rate contract price to anyone in the State at any time during the project, any additional order [repeat orders for extra items or additional quantities] shall be automatically reduced with effect from the date of reducing or quoting lower price, for all delivery of the subject matter of procurement under the project and the work order/ rate contract shall be amended accordingly. The bidder shall be responsible to intimate RISL about the price fall.

5.33. Risk and Cost

If the bidder, breaches the contract by failing to deliver goods, services, or works according to the terms of the agreement, the procuring authority may terminate the contract and procure the required goods, services, or works from another source which is known as substitution. In such cases, the defaulting contractor bears the risk associated with their failure to fulfil their contractual obligations. If the cost of procuring the goods, services, or works from another source is higher than the original contract, the defaulting contractor is liable for the additional cost incurred by the procuring authority

5.34. 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.

5.35. 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 endeavour 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 sub-section 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 shall 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 : Appellate Authority: Principal Secretary, IT&C, GoR
Second Appellate Authority: Secretary (Budget), Finance Department, GoR.
- f) Form of Appeal:
 - a. Every appeal under (a) and (c) above shall be as per Annexure-18 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 authorised 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.

5.36. 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.

5.37. 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.

5.38. 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.

5.39. 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.

5.40. 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.

6. 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.

6.1. 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.

6.2. 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.

6.3. 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.

6.4. Joint Venture, Consortium or Association:

Joint venture/ consortium/ association is allowed.

6.5. 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) Bidder must quote products in accordance with above clause “Eligible goods and related services”.

6.6. 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.

6.7. 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.

6.8. Scope of Supply

- 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 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.

6.9. Delivery & Installation

- 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. However, if the city/town is changed, additional charges of assistance in shifting and providing maintenance services for remaining period would be decided mutually.

6.10. Supplier's/ Selected Bidder's Responsibilities

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

6.11. 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.

6.12. 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.
- c) The rate quoted by the bidder for each item mentioned in the tender shall remain valid for purchase by RISL for a period of one year and may be extended by 3 months on same terms and conditions subject to price fall clause.

6.13. Contract Price Validity Period

The rate quoted by the bidder for each item mentioned in the tender shall remain valid for purchase by RISL for a period of one year and may be extended by 3 months on same terms and conditions subject to price fall clause.

6.14. 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 with RISL.
- 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.

6.15. Taxes & Duties

- a) The TDS, GST 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.

6.16. Copyright

The copyright in all drawings, design documents, source code and other services/materials containing data and information furnished to the Purchaser by the Supplier/ Selected Bidder herein shall remain vested in the RISL.

6.17. 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 /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.

6.18. 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.

6.19. 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.

6.20. 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.

6.21. 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.

6.22. 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.

6.23. 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.

6.24. 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 despatched 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.
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.
- d) 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.
- e) 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.
- f) 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.

6.25. 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 authorised 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.

6.26. 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.

6.27. 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 user 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.
- d) The manpower deputed by the supplier shall be reviewed by the purchaser in terms of its qualification, experience, efficiency, cooperation, discipline and performance and services. The purchaser, upon finding any deficiency in any of the parameter, may reject any of the manpower by giving 15 days' time, as decided by the purchaser, which the selected bidder has to replace within the given time frame

6.28. Extension in Delivery Period and Liquidated Damages (LD)

- a) Except as provided under clause "Force Majeure", if the supplier/ selected bidder fails to deliver any or all of the Goods or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in (d) below for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in the bidding document and/ or contract. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to clause "Termination".
- b) The time specified for delivery in the bidding document shall be deemed to be the essence of the contract and the supplier/ selected bidder shall arrange goods supply and related services within the specified period.
- c) Delivery and installation/ completion period may be extended with or without liquidated damages, if the delay in the supply of goods or service is on account of hindrances beyond the control of the supplier/ selected bidder.
 - i. The supplier/ selected bidder shall request in writing to the Purchaser giving reasons for extending the delivery period of service, if he finds himself unable to complete the supply of goods or service within the stipulated delivery period or is unable to maintain prorate progress in the supply of goods or service delivery. This request shall be submitted as soon as a hindrance in delivery of goods and service occurs or within 15 days from such occurrence but before expiry of stipulated period of completion of delivery of goods and service after which such request shall not be entertained.
 - ii. The Purchaser shall examine the justification of causes of hindrance in the delivery of goods and service and the period of delay occurred due to that and recommend the competent authority on the period of extension which should be granted with or without liquidated damages.
 - iii. Normally, extension in delivery period of goods and service in following circumstances may be considered without liquidated damages:
 - a. When delay has occurred due to delay in supply of drawings, designs, plans etc. if the user department or RISL was required to supply them to the supplier of goods or service provider as per terms of the contract.
 - b. When delay has occurred in supply of materials etc. if these were required to be supplied to the supplier or service provider by the RISL as per terms of the contract.
 - iv. If the competent authority agrees to extend the delivery period/ schedule, an amendment to the contract with suitable denial clauses and with or without liquidated damages, as the case may be, shall be issued. The amendment letter shall mention that no extra price or additional cost for any reason, what so ever beyond the contracted cost shall be paid for the delayed supply of goods and service.

- v. It shall be at the discretion of the concerned authority to accept or not to accept the supply of goods and/ or services rendered by the contractor after the expiry of the stipulated delivery period, if no formal extension in delivery period has been applied and granted. The competent authority shall have right to cancel the contract with respect to undelivered goods and/ or service.
- vi. If user department or RISL is in need of the good and/ or service rendered after expiry of the stipulated delivery period, it may accept the services and issue a letter of extension in delivery period with usual liquidated damages and denial clauses to regularize the transaction.
- d) In case of extension in the delivery and/ or installation/ completion/ commissioning period is granted with full liquidated damages, the recovery shall be made on the basis of following percentages of value of goods and/ or service which the supplier/ selected bidder has failed to supply/ install/ complete : -

No.	Condition	LD %*
a.	Delay up to one fourth period of the prescribed period of delivery, successful installation and completion of work	2.5 %
b.	Delay exceeding one fourth but not exceeding half of the prescribed period of delivery, successful installation and completion of work	5.0 %
c.	Delay exceeding half but not exceeding three fourth of the prescribed period of delivery, successful installation and completion of work	7.5 %
d.	Delay exceeding three fourth of the prescribed period of delivery, successful installation and completion of work	10.0 %

- i. Fraction of a day in reckoning period of delay in supplies, successful installation and completion of work shall be eliminated, if it is less than half a day.
- ii. The maximum amount of liquidated damages shall be 10% of the contract value.
- iii. *The percentage refers to the payment due for the associated works/ goods/ service.

6.29. Authenticity of Equipment:

- a) The selected bidder shall certify (as per Annexure-8) 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 the this clause of the contract.

6.30. Warranty:

- a) The bidder must supply and commission all items with comprehensive OEM warranty from the date of Go live installation valid for five years. However, selected bidder will also ensure additional required warranty services from OEM for entire period of contract without any extra cost to RISL.
- b) At the time of goods delivery, the selected bidder shall submit a certificate/ undertaking from all the respective OEMs mentioning the fact that the goods supplied are covered under comprehensive warranty & support for the prescribed period.
- c) The purchaser shall give a written notice to the selected bidder stating the nature of any defect together with all available evidence thereof, promptly following the discovery thereof. The purchaser shall afford all reasonable opportunity for the selected bidder to inspect such defects. Upon receipt of such notice, the selected bidder shall expeditiously cause to repair the defective goods or parts thereof or replace the defective goods or parts thereof with brand new genuine/ authentic ones having similar or higher specifications from the respective OEM, at no cost to the Purchaser. Any goods repaired or replaced by the selected bidder shall be delivered at the respective location without any additional costs to the purchaser.

- d) 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.
- e) During the warranty period, the bidder shall also be responsible to ensure adequate and timely availability of spare parts needed for repairing/replacement of the supplied goods.
- f) The bidder Shall provide 5.5 years CAMC(Comprehensive Annual Maintenance Contract) warranty for all existing items.
- g) The warranty on supplied software media, if any, should be at least for entire period of contract.

6.31. 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.
- b) 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.
- c) 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.
- d) 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.
- e) 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.
- f) 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.

6.32. Limitation of Liability

Except in cases of gross negligence or wilful misconduct: -

- 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.

"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.

The above provision does not limit either Parties rights provided under applicable laws of Govt. of India.

6.33. Change of Law

Unless otherwise specified in the Contract, if after the date of Bid submission, any law, regulation, ordinance, order or by law having the force of law is enacted, promulgated, abrogated, or changed in India, where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions .

6.34. 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, due to rains at identified locations, 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 user department or RISL, the user department or RISL may take the case with the supplier/ selected bidder on similar lines.

6.35. 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.

6.36. 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.

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.

c) Termination for Convenience

- i. RISL, by a written notice of at least 30 days sent to the supplier/ selected bidder, may terminate the Contract, in whole or in part, at any time for its convenience. The Notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the supplier/ selected bidder under the Contract is terminated, and the date upon which such termination becomes effective.
- ii. Depending on merits of the case the supplier/ selected bidder may be appropriately compensated on mutually agreed terms for the loss incurred by the contract if any due to such termination.
- iii. The Goods that are complete and ready for shipment within twenty-eight (28) days after the supplier's/ selected bidder's receipt of the Notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - a. To have any portion completed and delivered at the Contract terms and prices; and/or
 - b. To cancel the remainder and pay to the supplier/ selected bidder an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the supplier/ selected bidder.

6.37. Settlement of Disputes

If any dispute arises between the supplier/ selected bidder and RISL during the execution of a contract that should be amicably settled by mutual discussions. However, if the dispute is not settled by mutual discussions, a written representation will be obtained from the supplier/ selected bidder on the points of dispute. The representation so received shall be examined by the concerned Procurement Committee which sanctioned the tender. The Procurement Committee may take legal advice of a counsel and then examine the representation. The supplier/ selected bidder will also be given an opportunity of being heard. The Committee will take a decision on the representation and convey it in writing to the supplier/ selected bidder.

6.38. Jurisdiction

The jurisdiction in respect of all claims and matters arising under the contract shall be the courts situated in Jaipur, Rajasthan.

6.39. PROVISION IN CONFLICT

If a clause or a provision or a term or a condition is in conflict with RTPP Act, 2012 and RTPP Rules, 2013, in this situation, provisions and rules of RTPP Act, 2012 and RTPP Rules, 2013 shall prevail.

6.40. 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 the Project Implementation and Operations and Management of SLA.

- iii. In the case of termination of the Project Implementation and/ or 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 as decided by purchaser 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 RISL as desired by the procuring entity during the exit management period.
 - iii. RISL during the project implementation phase and the 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 the 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.

7. SPECIAL TERMS AND CONDITIONS OF TENDER & CONTRACT

7.1. Payment Terms and Schedule

a) Payment schedule - Payments to the bidder, after successful completion of the target milestones and delivery of the specified project deliverables as per clause no. 4.3 of Chapter-4, would be made as under:

Deliverable linked to Project Activity:

S. No.	Milestone	Deliverable (Reports/ Documents)	Time Schedule	Payment Schedule
1	Agreement Signing	→ Signed Agreement	→ T1=T*+15 Days	→ NA
2	Deployment of Project Management Staff & required Onsite staff	→ Joining Report → CV certified by Authorized Signatory	→ T2 ^S = T + 30 Days	→ NA Note: - The selected bidder shall deploy the required manpower as per scope during repair/replacement phase
3.	Site survey and existing infrastructure health checking	→ Survey report with current status of existing equipment and infrastructure with items replacement requirement.	→ T3=T1 + 60 Days	→ NA
4	Supply & Installation	→ Supply & Installation of Power Infrastructure including UPS at CCC and Solar Power Backup at Tower Locations	→ T5=T4** + 90 days	→ 50% of the quoted price of power supply components upon successful supply & installation at respective site and after duly verification by TPA / DLO / RISL authorized representatives.
5	Supply of equipment	→ Supply of upgraded/replaceable ITEMS → Sign off from RISL/DOIT&C on UAT/ commissioning/Repair/Maintenance Report of Repaired/upgraded/replaced components/items of the solution.	→ T7=T6*** + 180 days	→ 10% of the quoted price (excluding already supplied power backup components), after duly verification by TPA / DLO / RISL authorized representatives.
6	Undertake activities Mentioned in Scope of Work Section 4.1.1.- 4.1.8. (Replacement, CAMC, FMS)	→ Installation Certificate for upgraded/deployed components. → OEM Warranty Certificates for Hardware & software items upgraded/replaced (wherever applicable)		→ 60% of quoted price (excluding already supplied power components) on completion of commissioning & installation and go live of the site

S. No.	Milestone	Deliverable (Reports/ Documents)	Time Schedule	Payment Schedule
		→ TPA reports for completion of successful WS&APS system upgradation and maintenance as and when required → Training Manuals with attendance sheet of trainees (If Training is conducted) → Monthly Attendance Report of Onsite Deployed Manpower (if applicable)		+ 20% of quoted price of power components upon site-wise Go-Live + 80 % of quoted price of Repair & Maintenance items as per BoQ4
7		→ Sign off from RISL on final UAT and Go-live Certificate of solution → AMC ,FMS & Manpower Reports (According to point-08)	→ T8= The date of sign off from RISL	→ 10% of quoted price of replaced/supplied items as per BoQ1 + 20 % of quoted price of Repair & Maintenance items as per BoQ4) + 2 Qtr(Quarter) CAMC (BoQ2) Components + 2 Qtr FMS & Manpower (BoQ3) Components Note: - The Project will be Go-Live when All components of WS&APS are up & running, and system is live at all locations as per scope of work.
8	Undertake activities Mentioned in Scope of Work mentioned at 4.1.8	→ Quarterly satisfactory performance reports including report on Bugs/ Problems/ Complaints reported and resolved and other required reports as per clause 4.2.3 → SPRINT document with defined responsibilities and timeline of completion for each enhancement/ requirement and bugs being reported (In case of new Development during O&M period) → Joining Report of Deployed Manpower	→ Within 30 days of passing each quarter starting from the date of Project Go-Live	→ Remaining 20% of Quoted price at BOQ1 (CAPEX) equally divided in 20 Quarter + Quarterly payment as per BOQ 2 (CAMC) + Quarterly payment as per BOQ 3 (OPEX) Note: Quarterly payment shall be proceeding after making adjustments for penalties as per SLA/ Performance etc.

S. No.	Milestone	Deliverable (Reports/ Documents)	Time Schedule	Payment Schedule
		→ Attendance Report of onsite deployed manpower → Updated Training/ User Manuals (if any update is there) → Attendance report of trainees if trainings imparted		

T*= Date of Letter of Intent.

T4= Work order for initial power components.**

T6*= Work order for remaining items.**

*****Delay (More than 1 week) caused due to pending permission or approval from Forest department/RISL shall be excluded from above timelines/schedule.**

The SLA shall be exempted in first month of repair/replacement phase.

The SLA shall not be applicable on Existing Thermal cameras if required component not available in the market as per OEM certificate.

Please Note: formats of all the deliverables shall be proposed by bidder which shall be further approved by RISL.

- The bidder's request for payment shall be made to the purchaser in writing, accompanied by invoices describing, as appropriate, the 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.
- The currency or currencies in which payments shall be made to the bidder under this Contract shall be Indian Rupees (INR) only.
- All remittance charges will be borne by the bidder.
- In case of disputed items, the disputed amount shall be withheld and will be paid only after settlement of the dispute.
- Any payment of submitted invoices will only be processed once the sign-off will be provided by RISL on the required submitted deliverables as per RFP.
- 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.
- Taxes, as applicable, at the time of billing will be deducted/ paid as per the prevalent rules and regulations.
- The payment of last quarter of the contract period will be released only & after decision taken by RISL towards maintenance of system. The selected bidder shall handover all intellectual assets/ code/ any other project related properties and get sign off from the agency appointed by RISL or RISL.
- Successful bidder shall be responsible during entire contract period to take care of any loss or injury due to accident caused by any equipment installed on pole/ tower/ any component by the successful bidder, including pole/tower and shall be solely responsible for paying all kinds of compensation and damages due to loss of life or property and would be responsible for any civil or criminal case arising there from.

7.2. 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 Successful bidder shall ensure that the all components of the system should be up and running during entire period of contract.

The selected bidder is highly advised to get confirmation from the OEMs of various components on the frequency or rate of fault in their respective components and maintain buffer inventory to maintain SLA without any extra cost. In case of any issue in any component the selected bidder may change the component at the earliest from the buffer inventory and after repair or replacement of the faulty component, the buffer inventory may be changed to repaired or replaced component.

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.

Three consecutive quarterly penalties (on actual) of more than 20% of the applicable fee in each quarter on account of any reasons may be deemed to be an event of default and termination.

It is acknowledged that service levels may change as service needs evolves over the course of the contract. The present SLAs have been worked out on the basis of current expectations. Service levels between the purchaser and bidder can be revised in view of experience gained during the project period. The experience gained during this period will be used to fine tune the SLAs, including parameters, targets and penalties, if required. Any changes to the levels of services provided during the project period will be requested, documented and negotiated in good faith by both parties. Either party can request a change. Changes will be documented as an addendum to the contract.

The SLA has been logically segregated in the following categories:

- A. Infrastructure Service Levels
- B. Software/ Application Service Level
- C. UAV Flying Service Level
- D. Service Level for Assigned Tasks in SPRINT/ Issue/ Bug Sheet
- E. Manpower availability service levels

7.2.1 Infrastructure Service Levels:

- a. **During General/ Normal Conditions/ Events:** In case of the conditions/ events other than the defined extreme condition/ events at Abbreviations & Definition section of the RFP document, the following service level will be applicable on repair of all equipment's (Infra) which are procured under this tender for maintenance to SI:

S.N.	Item Type	Timeline	Penalty (in Rs.) (Per quantity of item for every 24/48 passed after expiry of prescribed timeline)
1	Items in Onsite Setups		
1.1.	Tower with foundation and installation		
1.1.1.	Aviation Light	24 Hrs.	100/- (>48 Hrs. of lodging of complaint)
1.1.2.	Lighting Protection and Earthing	24 Hrs.	500/- (>48 Hrs. of lodging of complaint)
1.1.3.	15/30-36/43-45 Meter Tower	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
1.1.4.	Outdoor Box	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
1.1.5.	Conduit (HDPE) Pipe	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
1.1.6.	Earthing	24 Hrs.	500/- (>48 Hrs. of lodging of complaint)
1.2.	Solar Solution		
1.2.1	Solar charge controller and Inverter, Batteries (including Outdoor box)	24 Hrs.	1000/- (>48 Hrs. of lodging of complaint)
1.2.2.	Solar Panels	48 Hrs.	200/- (>48 Hrs. of lodging of complaint)
1.2.3.	Solar Panels Mounting Structure with Installation and Elevated Control Room	48 Hrs.	300/- (>48 Hrs. of lodging of complaint)
1.2.4.	Power Cable Type-1	48 Hrs.	300/- (>48 Hrs. of lodging of complaint)
1.2.5.	Copper Cable	48 Hrs.	300/- (>48 Hrs. of lodging of complaint)
1.2.6.	Earthing	48 Hrs.	500/- (>48 Hrs. of lodging of complaint)
1.3.	Cameras/ Sensors		

1.3.1.	Observable Thermal with Clear vision PTZ assembly with embedded Video Encoder	24 Hrs.	2000/- (>48 Hrs. of lodging of complaint) (The SLA shall not be applicable on Existing Thermal cameras if required component not available in the market).
1.3.2.	IP Outdoor Camera with IR	24 Hrs.	500/- (>48 Hrs. of lodging of complaint)
1.3.3.	Full HD IP Bullet Camera With IR	24 Hrs.	500/- (>48 Hrs. of lodging of complaint)
1.3.4.	Full HD IP PTZ Camera With IR	24 Hrs.	1000/- (>48 Hrs. of lodging of complaint)
1.4.	Network		
1.4.1.	Radio Setup	24 Hrs.	1000/- (>48 Hrs. of lodging of complaint)
1.4.2.	Outdoor Gigabit Network Managed Switch: Type-1	24 Hrs.	1000/- (>48 Hrs. of lodging of complaint)
1.4.3.	Weather proof network cable	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
1.5.	Connectors and Sockets	24 Hrs.	100 /- (>48 Hrs. of lodging of complaint)
1.6.	Any other item	24 Hrs.	200/- (>48 Hrs. of lodging of complaint)
2	Items in Local Command & Control Center		
2.1.	Base Infra & Tower		
2.1.1.	Modular Container	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
2.1.2.	Base Tower 45 meter	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
2.1.3.	Aviation Light	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
2.1.4.	Outdoor Box	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
2.1.5.	Conduit (HDPE) Pipe	24 Hrs.	300/- (>48 Hrs. of lodging of complaint)
2.1.6.	Lighting Protection and Earthing	24 Hrs.	500/- (>48 Hrs. of lodging of complaint)
2.1.7.	Earthing	24 Hrs.	500/- (>48 Hrs. of lodging of complaint)
2.2.	DC Infra		
2.2.1.	Server Rack	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.2.2.	Network Rack	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.2.3.	Intelligent PDU	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.2.4.	Precision Air Conditioning Unit	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.2.5.	Rack Server	24 Hrs.	2000/- (> 48 Hrs. of lodging of complaint)

2.2.6.	External Storage	24 Hrs.	2000/- (> 48 Hrs. of lodging of complaint)
2.2.7.	GPU Based Server	24 Hrs.	2000/- (> 48 Hrs. of lodging of complaint)
2.2.8.	Gigabit Managed Network Switch: Type-2	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.2.9.	Weather proof network cable	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.2.10.	Earthing	24 Hrs.	500/- (> 48 Hrs. of lodging of complaint)
2.3.	Monitoring Room		
2.3.1.	Client PC	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.3.2.	Display for 24x7 display	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.3.3.	Chairs	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.3.4.	Cabinet	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.3.5.	AC	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.4.	Electricals		
2.4.1.	UPS	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.4.2.	DG Set	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.4.3.	APFC Panel	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.4.4.	Power Cable Type-2	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.4.5.	MCCB	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
2.4.6.	Servo Stabilizer	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)
2.5.	Any Other Item	24 Hrs.	100/- (> 48 Hrs. of lodging of complaint)
3.	Miscellaneous Components		
3.1.	UAV (Drone)	24 Hrs.	2000/- (> 48 Hrs. of lodging of complaint)
3.2.	Wireless Communication		
3.2.1.	Radio Over IP	24 Hrs.	500/- (> 48 Hrs. of lodging of complaint)
3.2.2.	Base Radio Station	24 Hrs.	500/- (> 48 Hrs. of lodging of complaint)
3.2.3.	Digital Handset with API Query Licenses	24 Hrs.	300/- (> 48 Hrs. of lodging of complaint)
3.3.	Any other Item	24 Hrs.	1000/- (> 48 Hrs. of lodging of complaint)

Note:

- The SLA shall be applicable on faulty item only.
- The SLA shall be exempted in first month of repair/replacement phase.

- c) **The SLA shall not be applicable on Existing Thermal cameras if required component not available in the market as per OEM certificate.**
- d) For maintenance of uptime of item supplied/handed over by GoR and installed in the system, It is advised that bidder should maintain adequate spares of different type of edge equipment's. The downtime due to ISP failure shall not be accounted for penalty calculation.
- e) If any software component is down due to any hardware fault, then only the SLA defined for the particular faulty hardware will be applicable.
- f) The selected bidder shall take all required measures to ensure proper lock & key or increase elevation of storage boxes or fencing etc. to avoid the risk of system shutdown/ WS&APS component's damages due to wind speed/ heavy rains/ fire/ flood/ electric surges/ theft/ any similar unforeseen reasons. No extra cost shall be paid to the selected bidder for replacement or repair or deployment of new component or any other measures for this purpose.
- g) **Relaxation for non-working hours (5PM to 7AM) shall be applicable only during the initial period of SLA calculation(as Per mentioned in above table column D). Beyond this initial window, if the issue persists, SLA shall be calculated on a 24x7 basis without any further exemption for non-working hours.**
- h) **In case the conditions are exceptionally adverse or delay at permission process from departements, the authority to grant further relaxation shall rest with the Project OIC. The System Integrator must submit necessary proofs and obtain formal approval from the OIC for such relaxation to be considered.**

7.2.2 Manpower availability Service Levels:

Selected bidder shall appoint as many team members, as deemed fit by them, to meet the SLA requirements. The tendering authority would not be liable to pay any additional cost for this. SI shall provide detailed CV of each of the resource being provided to tendering authority before deployment in project.

1. Penalty for replacement / Exit of a resource

- a. Replacement of resources shall generally not be allowed. The replacement of resource by bidder will be allowed (with penalty) only in case, the resource leaves the organization by submitting resignation with the present employer. If any staff is changed/replaced with the approval of Purchaser, no penalty will be levied.
- b. In case of continuous/ severe illness of the resource, the bidder is allowed (without penalty) to replace the resource.
- c. 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.
- d. The replaced resource will be accepted by the purchaser (RISL) only if he/she fulfils the minimum eligibility criteria as per RFP and is found suitable to the satisfaction of the purchaser. The outgoing resource should complete the knowledge transfer with the replaced resource as per the satisfaction of the purchaser (RISL). The supplier will have to replace a resource within 15 days or any other period specified by the bidder.
- e. The penalty per resource would be imposed in case of exit/replacement of resource from the project within below mentioned period starting from the date of deployment of respective resource:
 - I. Within 6 Month: Rs. 10000 (Rupees Ten Thousand Only) per resource per instance for Project Management/Implementation Staff.
 - II. Within 6 Month: Rs. 5000 (Rupees Five Thousand Only) per resource per instance for Control Room Staff & UAV Operator.
 - III. After 6 Months and upto 1 Year: Rs. 5,000 (Rupees Five Thousand) per Resource for Project Management/ Implementation Staff
 - IV. After 6 Months and upto 1 Year: Rs. 2,000 (Rupees Two Thousand) per resource for Control Room Staff & UAV Operator.
- f. Purchaser is free to relieve any resource (apart from minimum committed numbers) at any time (beyond minimum committed period) during contract period without any penalty by serving 15 days advance notice to supplier/bidder.

2. Penalty for Short Supply of Resources / Absence

- a. In the case of short supply of resources / absence of a resource during project period, no payment will be made for the days a resource is absent.
- b. In addition, following penalties will be levied for all absence of the respective resource without prior approval from OIC:

S.No.	Resource Deployment Description	Penalty on non-availability of resource per shift
-------	---------------------------------	---

1	Project Management/ Implementation Support Staff	Rs. 3000/-
2	Staff for Control Room	Rs. 1000/-
3	UAV Pilot	Rs. 2000/-

- c. Penalty would be deducted from the applicable payments. All applicable penalties will be in addition to liquidated damages as described in Section below.
- d. To manage weekly off/ holidays/ leaves of deployed resources as per applicable labour law, the selected bidder shall always maintain the minimum manpower ordered on-site throughout the period of the contract. However, leave is not a right and, as per requirement of the project, project OIC may deny leave(s) to a particular resource(s).

3. Quality of Services

- a. In case negative feedback is received repeatedly verbally or in writing against any of the resources deployed, the purchaser may issue written notice to the bidder for a suitable replacement.
- b. In case of failure to meet the standards of the purchaser, (which includes efficiency, cooperation, discipline and performance), the Purchaser on their own discretion may decide to replace the specific resource and issue written notice to the bidder for a suitable replacement.
- c. The selected agency shall be responsible to replace the resource(s) (of equivalent qualifications or above) within 30 days, unless otherwise applicable LD will be imposed as per RFP.
- d. The outgoing resource would complete the knowledge transfer with the replaced resource as per the satisfaction of the purchaser (RISL).
- e. The all deployed manpower should have appropriate licenses/ certificates from the competent authority to work in their expertised areas. The selected bidder shall ensure about their trainings/ refresher trainings whenever required at the location only.

Note:

Every resource has to hand over his shift to other resource if there is availability of resource in next shift. All manpower deployed under the project must be covered under PF, ESI and Work Contract Insurance. It is the responsibility of selected bidder to follow safety norms as defined in Indian Electricity Act, 2003/ any other relevant norms applicable in India as amended till date. All necessary tools, equipment's, software, hardware etc. for providing O&M Services shall be provided by selected bidder to their O&M Manpower. The resources shall be deployed by the selected bidder to manage the edge equipment as mentioned in this RFP for 24 *7 and maintain the service level requirements. Provisions of leave reserve, providing leaves and other facilities / perks shall be as per selected bidder prevailing policies / practices which shall be taken care by selected bidder without any liability and/or financial implications on the part of Purchaser. The team deployment plan shall be prepared by selected bidder periodically and shall obtain approval from OIC-Project/tendering authority prior to its implementation.

7.3 Penalty Capping:

Total penalties except those defined in (7.2.2): "Manpower availability service levels" shall not be higher than 20% of Agreed Quarterly Payment for respective quarter whereas total penalty including penalties towards "Manpower availability service levels" shall not be higher than the Agreed Quarterly Payment for respective quarter.

7.4 Special Conditions of the Bid

- a) Price Validity- The quoted rate will remain unchanged during the entire contract period.
- b) In-house development model
 - The selected Resources will be deployed at identified forest site/ location for WS&APS.
 - The Resource has to follow the working hours, working days and public Holidays of Government of Rajasthan. However resource shall be available on a holiday if so is required by the purchaser. No extra payments will be made for working on extended hours / Saturdays / Sundays / Holidays to meet the committed/required time schedules
 - For special events like Site Visit, Non-availability of Bio-metric application etc, the resources would be responsible to submit written application and take approval from OIC for those particular days.
- c) Resource shall get prior approval of purchaser before leaving the identified Forest location, even if it is on a holiday

7.5. 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/DoIT&C 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: -

- Requirements of service to be provided under the Agreement are to be specifically developed and rendered for RISL/DoIT&C.
 - The method of deployment
 - The place of 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/DoIT&C.
 - Analysis and evaluation of the Change Request - Impact of the change in terms of the estimated effort, changed schedule & cost impact will be analysed and documented by the bidder.
 - 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/DoIT&C on implementation of the change request.
- d) All changes outside the scope of services agreed to herein which may have likely financial implications in terms of the overall cost/ time of the project shall be undertaken by selected bidder only after securing the express consent of RISL/DoIT&C. In the event that the consent of RISL/DoIT&C is not received then the change will not be carried out.
- e) While approving any change request, if required, RISL/DoIT&C may ask the bidder to deploy the required resources on-site.
- f) If any such change outside the scope of services agreed to herein causes an increase or decrease in cost of, or the time required for, selected bidder'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 selected bidder receiving the RISL/DoIT&C change order which shall not be unreasonably withheld or delayed

ANNEXURE-1: COVERING LETTER FOR TECHNICAL BID {to be filled by the bidder}

Date:

[Signature of staff member or authorized representative of the staff] Day/Month/Year

Full name of authorized representative:

To,
Managing Director,
RajCOMP Info Services Ltd.,
C-Block, 1st Floor, Yojna Bhawan, Tilak Marg, C-Scheme, Jaipur
Rajasthan

Reference. RFP No.Dated.....

Sir,

We, the undersigned, offer to provide the consulting services for the above in accordance with your Request for Proposal dated _____, and our proposal. We are hereby submitting our proposal, which includes this Technical proposal and Financial Proposal submitted through e-Procurement Portal. Our proposal is binding upon us. We understand that you are not bound to accept any Proposal you receive.

We hereby offer to provide the Services at the quoted rates mentioned in the Financial Bid.

We do hereby undertake, that, in the event of acceptance of our bid, the Services shall be provided as stipulated in the schedule to the Bid document and that we shall perform all the incidental services.

We enclose herewith the complete Technical Bid as required by you. This includes: This Bid Letter and Bid Particulars.

We agree to abide by our offer for a period of 180 days from the date fixed for opening of the Technical Bids and that we shall remain bound by a communication of acceptance within that time.

We have carefully read and understood the terms and conditions of the RFP and the conditions of the Contract applicable to this RFP and we do hereby undertake to provide services as per these terms and conditions.

Certified that the Bidder is a Company and the person signing the tender is the duly constituted attorney. Bid Security (Earnest Money) for an amount equal to Rs. _____ is enclosed in the cover containing the letter for Technical Bid.

We do hereby undertake, that, until a formal contract is prepared and executed, this bid, together with your written acceptance thereof or placement of letter of intent awarding the contract, shall constitute a binding contract between us.

Dated this DD/MM/YYYY (Signature) (In the capacity of)

Duly authorized to sign the Tender Response for and on behalf of: (Name and Address of Company) Seal/Stamp of bidder

Witness Signature: Witness Name:

Witness Address:

ANNEXURE-2: TECHNICAL BID DOCUMENTS {to be filled by the bidder}

S.No.	Particular	List of Documents (To be filled by bidder)	Reference Page No. (To be filled by bidder)
	Fee Details		
1.	Technical Bid Cover letter, Bidding document Fee (Tender Fee), RISL Processing Fee (e-Procurement)	Instrument/ Proof of submission (FEE.PDF) Scanned copy of Fee Receipt/DD/Banker Cheque Along with Annexure-1 (Technical Bid cover letter)	
Eligibility Documents (As per Clause no. 3.1. Pre-Qualification Criteria of Bidders)			
2.	Bidder's Authorisation Certificate	a. As per Annexure-3 b. copy of PoA/ Board resolution stating that Auth. Signatory (DSC holder) can sign the bid/ contract on behalf of the firm. (AUTH.PDF)	
3	Mandatory Undertaking	A Self Certified letter as per Annexure-04: Self-Declaration	
4.	Certificate of Conformity/ No Deviation	As per Annexure-5 (PDF)	
5.	Declaration By Bidder	As per Annexure-06	
6.	Compliance to Land Border Policy	Copy of undertaking as per Annexure-07. Or Copy of Registration with the Industries Department of the Government of Rajasthan	
7.	Legal Entity	Following documents of bidder partners: a. - Copy of valid Registration Certificates b. - Copy of Certificates of incorporation Consortium agreement in case of consortium as per Annexure-19	
8.	Financial: Turnover from IT/ITes	CA Certificate with CA's Registration Number/ Seal and UDIN for bidder	
9.	Financial Net Worth	CA Certificate with CA's Registration Number/ Seal and UDIN for bidder	
10.	Technical Capability	Set of documents related to project as follows: Annexure-13 per project reference And Work Completion Certificates from the client; OR Work Order + Self Certificate of Completion+ Invoice with payment receipt statement (Certified by the CA with Unique Document Identification Number (UDIN)); OR Work Order + Phase Completion Certificate from the client (The phase completion certificate should indicate that the deployment of solution has been completed as per the	

S.No.	Particular	List of Documents (To be filled by bidder)	Reference Page No. (To be filled by bidder)
		Workorder. Values realised should be equal to or more than 10 Cr.)	
11.	Tax registration	The bidder should submit the following documents: a. Income Tax / PAN number b. GSTN where his business is located	
12	Others (if any)	Other Documents which are left above as per the RFP	
Eligibility Documents (As per Clause no. 3.2. Pre-Qualification Criteria of OEMs)			
13	Compliance to Land Border Policy for all OEMs	Copy of undertaking as per Annexure-07. Or Copy of Registration with the Industries Department of the Government of Rajasthan	
Technical Bid Documents			
14	Component Offered	As per Annexure-9 on the letter head of Bidder (If applicable) Note: Mention one OEM for one item	
15	Undertaking on Authenticity	As per Annexure-10 on the letter head of Bidder (If applicable)	
16	Undertaking on comprehensive annual maintenance contract & scope compliance	Compliance(A) for 5.5 Years comprehensive annual maintenance contract and Compliance(B) for scope Compliance as per Annexure-11 on the letter head of Bidder	
17	Compliance on Technical Specification & MAF	Set of following documents: a. Replacement items Compliance on technical specification as per Annexure-11 on the letter head of OEM b. MAF as per Annexure-12 on the letter head of OEM along with Data Sheet of the products mentioned in the MAF	



ANNEXURE-3: BIDDER'S AUTHORIZATION CERTIFICATE (to be submitted by the bidder on his Letter head)

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-4: SELF-DECLARATION {to be submitted by the bidder on his Letter head}

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 abroad during the last 3 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 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.

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-5: CERTIFICATE OF CONFORMITY/ NO DEVIATION [to be submitted by the bidder on his Letter head]

To,
{Procuring Entity},

CERTIFICATE

This is to certify that, resources deployed/ aligned for this project by our firm are in conformity with the minimum qualifications as mentioned in this RFP document and that there are no deviations/will not be any deviation of any kind from the requirement or deliverables of technical support services.

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 and assumptions.

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-6: 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-7: UNDERTAKING ON COMPLIANCE TO LAND BOARDER POLICY: {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 comply with with Subrule 4 under rule 13 of RTTP 2013 and Order no. F.No. 6/18/2019-PPD dated 23.07.2020 issued by Ministry of Finance Department of Expenditure Public Procurement Division regarding the restriction under rule 144 (xi) of GFP 2017.

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: -

Name of the Organization: -

Registered Officer Address: -

Date: _____

Place: _____

ANNEXURE-8-BILL OF MATERIAL

The details of repair/upgrade/ maintain at onsite setups/CCC of the identified wildlife sanctuary/ Forest Sites are given below: -

S. No.	Particulars	Remarks
1	Replacement of items with buyback along with 5 years onsite comprehensive warranty from date of go live	As per BoQ1
2	Comprehensive annual maintenance contract of all remaining items for 5.5 years	As per BoQ2
3	FMS with manpower for 5.5 years	As per BoQ3
4	Repair and Maintenance	As per BoQ4

Note:

1. The bidder is responsible for operationalizing the entire solution. Any additional equipment required to make the entire solution operational shall have to be provided by the selected bidder at no additional cost to the purchaser.
2. Any type of cable/ sockets/ connectors/ patch chords required to make system live and not mentioned/ quoted in the RFP document shall be provided by Selected bidder at no additional cost to the purchaser.

ANNEXURE-9: COMPONENTS OFFERED – BOM {to be filled by the bidder}

S.No.	Item Name and Item No.	Make	Model	Quantity	Product Brochure	MAF Submitted (Yes/No)	OEM Details (Name, Address, e-mail, Mobil Nos.)

Note: MAF from OEM and Model is not required for cables, connectors & accessories.

Please attach Technical specifications compliance sheet (on Bidder's letter head only) and provide reference number in this column. (Deviations, if any, should be appropriately mentioned & highlighted in the compliance/ deviation column of the respective table as provided above in the Annexure-11: Technical Specifications)

ANNEXURE-10: UNDERTAKING ON AUTHENTICITY OF COMPUTER EQUIPMENT {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 debar/ black list us or take suitable action against us.

Authorized Signatory

Name:

Designation:

ANNEXURE-11-TECHNICAL SPECIFICATION:

The details of components to be repair/upgrade/ maintain at onsite setups/CCC of the identified wildlife sanctuary/ Forest Sites are given below: -

S. No.	Particulars	Remarks
1	Replacement of items with buyback along with 5 years onsite comprehensive warranty from date of golive	As per BoQ1
2	Comprehensive annual maintenance contract of all remaining items for 5.5 years	As per BoQ2
3	FMS with manpower for 5.5 years	As per BoQ3
4	Repair and Maintenance	As per BoQ4

- **Compliance(A):-Bidder has to submit given compliances on bidder letter head only for the items mentioned below.**

S.No.	Item Description	Existing Make	Units	Total Units	We agree to provide Comprehensive Annual Maintenance for 5.5 years Compliance (Yes/No)
A	On Site Setup				
1	Thermal Sensors with Clear vision PTZ assembly with embedded Video Encoder and Per tower Agent app and configuration	Hikvision	Nos.	56	
2	IP Indoor Camera with IR (Dome)	Hikvision	Nos.	56	
3	Full HD IP Bullet Camera With IR	Hikvision	Nos.	112	
4	Full HD IP PTZ Camera With IR	Hikvision	Nos.	56	
5	Radio Setup	Radwin	Nos.	88	
6	Weatherproof network cable	Systimax	Mtr.	17500	
7	Solar Panels	Insolation Energy Pvt. Ltd.	Nos.	1320	
8	Solar Panels Mounting Structure with Installation and Elevated Control Room	10G	Nos.	110	
9	Solar Charge Controller and Inverter (3 KVA)	Statcon Energiaa	Nos.	110	
10	Batteries	Exide	Nos.	880	
11.01	Tower with elevated foundation and installation (30-40 Mtr)	10G	Nos.	47	

S.No.	Item Description	Existing Make	Units	Total Units	We agree to provide Comprehensive Annual Maintenance for 5.5 years Compliance (Yes/No)
11.02	Tower with elevated foundation and installation (45 Mtr)	10G	Nos.	9	
12	Power Cable	Finolex	Mtr.	10037	
13	Copper Cable	Global	Mtr.	7420	
14	Lighting Protection and Earthing	Sheetal WirelessSai Communication	Nos.	56	
15	Aviation Light	Global	Nos.	56	
16	Outdoor Box	10G	Nos.	57	
B	Modular Container-ized Data Center				
17.01	Modular Container	Global	Nos.	5	
17.02	Rack Server	HPE	Nos.	10	
17.03	External Storage	HPE	Nos.	5	
17.04	Standard Managed Router	HPE	Nos.	5	
17.05	Gigabit Managed Network Switch: Type-2	Dell	Nos.	10	
18	Control Room/Monitor Room				
18.01	Client PC	Dell	Nos.	13	
18.02	Display	LG	Nos.	14	
18.03	Workstation Cabinet	Global	Nos.	29	
18.04	Chairs	Global	Nos.	29	
19	Common components				
19.01	container IP Indoor Camera with IR (Dome)	Hikvision	Nos.	10	
19.02	Weather proof network cable	Systimax	Nos.	820	
19.03	Tower with elevated foundation and installation (45 Mtr)	10G	Nos.	2	
19.04	Power Cable	Finolex	Mtr.	230	
19.05	Lighting Protection and Earthing	Sheetal WirelessSai Communication	Nos.	2	
19.06	Aviation Light	Global	Nos.	2	
19.07	UPS	Sukam	Nos.	10	
19.08	DG Set with AMF	Mahindra	Nos.	5	
C	Miscellaneous Components				

S.No.	Item Description	Existing Make	Units	Total Units	We agree to provide Comprehensive Annual Maintenance for 5.5 years Compliance (Yes/No)
20.01	Radio Over IP	Pulse	Nos.	10	
20.02	Base Radio Station	Motorola	Nos.	16	
20.03	Digital Handset with API Query Licenses	Motorola	Nos.	175	
20.04	UAV (Drone) Setup	Asteria	Nos.	5	

- **Compliance (B) :-Bidder has to submit given scope compliances on bidder letter head only for the items mentioned below.**

Sr. No.	Particulars	Agree (Yes/No)	Remarks/ Deviation
1	The selected bidder shall ensure solar solution (it includes solar panels, batteries, Solar PCU, Solar structure etc.) to work up to +60 Degree temperature and 180Km/h wind speed (Solar structure).		
2	The selected bidder shall ensure solar solution to provide Minimum 300watt power supply for minimum 30 Hours from backup		
3	The selected bidder shall ensure solar solution to charging 90% of back up capacity within 6 hours of sun lights.		
4	The selected bidder shall ensure that any point of time diesel for 8 hours running of Command Centre (CCC) should be available in the tank of DG set.		
5	The selected bidder shall ensure 3-month video recording of all cameras and recordings of all incidences for 5 years with regular data updating on centralized server at BSDC		
6	The selected bidder shall ensure all IT equipment's (e.g., Cameras, switch server etc.) to integrate with ICC&VMS of WS&APS Phase-3		
7	The selected bidder shall ensure all electrical equipment's (e.g., PAC, Online UPS. Etc.) to integrate with electrical equipment management system of WS&APS Phase-3		
8	The selected bidder shall integrate to all CCTV/Cameras to fulfill following requirement via ICC&VMS of WS&APS Phase-III 1. The System should be able to Identify individual tigers from stripe patterns in close quarters. 2. The System should be able to identify the species of the animal, people, vehicle Object detected in all type of camera. 3. The System should be able to provide GPS location and distance from the tower of the detected animals, people, vehicles, incident etc.(Required from all type of camera). 4. The System should be able to categories alerts on the basis of severity and priorities as per Forest department requirements. (Automatic alert generation as per category profile with provision to manual generation also.) 5. The Alert should be sent to concerned officer on near real time basis with incidence location and other details.		
9	The selected bidder shall replace the all-existing batteries of onsite solar solution during Repair & replacement phase before go live.		
10	The selected bidder shall deploy the required manpower as per scope and schedule		
11	The selected bidder shall ensure the modular containers 1. doors with		

	pre-fabricated & fire rated doors, 2. internal wall paneling with aluminum composite panels (ACP Sheets) of Minimum 4mm, 3. flooring with raised flooring with provision of cable duct, 4. Paint minimum 2 coats, 5. Protection to make windows dust & water proof .		
12.	The selected bidder shall take handover of all existing items/equipment included in CAMC in the present conditions without any additional cost to RISL.		
13	The selected bidder shall take all necessary actions to prevent equipment damage due to high voltage surge, Failure of cooling system, lighting and weather conditions (Flood, Thunder storm etc.), and if any equipment damaged due to above mentioned reasons, the selected bidder shall bear the all cost of repair, maintenance and replacement of the damaged/burned equipment without charging any additional/extra cost to tendering authority/RISL		

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. **Also, the bidder is required to submit the technical compliance statement for replaced /New items.**

Item: Solar Panels:

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Poly Crestline or better solar panels with (250 Watts or higher) as per solar solution requirement		
4.	Bypass diodes to avoid effect of partial shading		
5.	Anodized aluminum alloy frame		
6.	Tempered glass for rugged protection		
7.	IEC 61215 certification by EuroTest and TUV		
8.	Compatible to existing Solar panel structure		
9.	OEM's service center or OEM's authorized service center in India.		
10.	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Solar charge controller and Inverter, Batteries (including Outdoor box):

S. No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make (Solar charge controller and Inverter):		
2.	Model (Solar charge controller and Inverter):		
3.	Make (Batteries):		

4.	Model (Batteries):		
5.	Make (Outdoor Box):		
6.	Model (Outdoor Box):		
7.	Existing PV (Reference): Site has existing PV array of 24 nos. × 250 Wp (2 sets × 12 panels each) — total 6.0 kWp. Selected Bidder should design/size PCU, MPPT input and battery system compatible with this existing array and submit PV-to-PCU matching calculations.		
8.	Solar Charge Controller and Inverter with MPPT per set suitable as per required AC Output		
9.	PV Charge Controller Rating: As per installed Solar array capacity.		
10.	Solar Charge Controller and Inverter should have Local and Remote Monitoring (LAN/SNMP Based) and LCD Display for easy monitoring		
11.	Battery bank must include on refresh cycle as per requirement during the entire period of contract, considering the system will be going to run 24x7 only through solar energy.		
12.	Battery Bank should be given to continue supply up to minimum 30 hours for minimum 300-watt load and should be able to work in temperature up to 60° C.		
13.	The solution should be capable of charging the Battery Bank from 0 to 90% within 6 hours.		
14.	The selected bidder to submit detailed VAH calculation (Including losses, temperature derating) VAH of batteries should be supplied accordingly. The design should be approved before		
15.	Each component including batteries should be factory Charged condition with optimal quality and ready to use.		
16.	Redundancy: On failure of one PCU, the other shall continue to supply power. Bidder shall ensure proper wiring and connection of both PCU outputs to the outdoor PDU box so that in case one PCU is down, the other PCU continues to supply power to the load without any manual intervention.		
17.	All batteries, PCU and associated equipment shall be housed in galvanized, weatherproof, rodent-proof outdoor enclosure (IP65 or higher) with adequate ventilation/cooling arrangement.		
18.	System shall include all standard protections i.e. Over/under-voltage, short circuit, surge protection etc.		
19.	Solution should be properly earthed as per IEC standards. Earthing test reports to be submitted at installation.		
20.	The solution performance should be same throughout the project duration.		
21.	OEM's service center or OEM's authorized service center in Rajasthan.		
22.	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Radio Setup:

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		

2.	Model:		
3.	PTP link with suitable external antennas based on solution requirement		
4.	As per frequencies permitted under Indian WPC regulations allowed and compatible with existing Radio Setup.		
5.	Throughput: Aggregate Minimum throughput of 1Gbps on the distance of 10 KM or better		
6.	Configuration: Point-to-point configuration		
7.	The Radio should support Channel Bandwidth of 20, 40, and 80 MHz and must be user configurable. The Radio should support Channel Resolution of 5 MHz		
8.	The Radio should support 2x20, 2x40 and 2x80MHz non- contiguous channel (4-Streams). The parameters must be user configurable.		
9.	Should be IPV4 and IPV6 supported and radio should support MAC Forwarding table		
10.	Radio should have the capability to adapt the modulation mode depending on the link environment, ensure best throughput in nLOS situation to ensure flexibility in choosing deployment locations. Modulation level shall be dynamically adaptive.		
11.	Ruggedized: IP67 without external enclosures.		
12.	Security: AES 128 Encryption with SNMPv3 management interfaces, and should follow standard defines in IEEE802.3 for various parameters like Ethernet interface/ quality of services etc.		
13.	Radio should have separate outdoor and indoor unit or an all-outdoor solution consisting of a single unit per site of PTP link		
14.	Management & Configuration Capability: The Radio should support HTTP/S, SNMPv3(RO), Syslog for management application. The Radio should support local and remote installation, Configuration, Fault management through HTTP/S using single computer for installation and commissioning. The Radio should have the capability to download a support file from the Radio for diagnostics and troubleshooting to be used by manufacturer support engineers. Radio System should have the feature of Link management for installation, configuration and troubleshooting without any pre configurations (Factory Defaults)		
15.	Software Upgradation: Radio System should support the upgradation of firmware/software over the air Radio System should support Bulk software upgrade of multiple site equipment. Radio system should support configuration backup. Alarm indication or notification for software incompatibility		
16.	Performance & Monitoring: Radio system should support download of link diagnostics information logs from the radio for fault analysis. The Radio should have built-in tools to perform a throughput, Trace Route, Ping, etc. test for troubleshoot the wireless link.		

	The Radio should support Quality of Service according to IEEE 802.1p, TOS/Diffusive and four Levels of Queues to prioritize traffic for Voice, Video, Data and Best effort. The latency of the Radio link should be less than 5ms The Radio should have inbuilt tool to check available throughput in link management software Performance Monitoring logs, event logs and provision for monitor logs must be available through Element management software Radio/ EMS should have capability to store the performance logs for atleast 15 to 30 days for downloading when required.		
17.	Radio System should operate in India WPC Band 5.825Ghz – 5.875Ghz in accordance with GSR 38 (E) dated 19th Jan 2007 for outdoor deployment. The Radio should support a maximum output power of 30 dBm The local Radio should set Transmit Power of remote Radio		
18.	The Radio should be configurable to maximum Tx Power as per EIRP restricted by the country of operation. The Tx power must be configured in step sizes of 1 dBm.		
19.	Radio system should be compatible/ integrable with the other devices to be deployed at Onsite Setups and network of existing WS&APS		
20.	POE: AC PoE to power the ODU The power over Ethernet module should support power input :100-240 VAC - 50/60 Hz MAX 1.5A. The PoE unit should support 1x10/100/1000 Mbps Ethernet LAN ports, Auto negotiation IEEE 802.3u. OR Power should support 100-230VAC ,56V, 30W, PoE adaptor.		
21.	Power Consumption: should not be more than 30 W		
22.	The Radio should support LAN Interface 10/100/1000 Base T interface with Auto negotiation (IEEE802.3)		
23.	VLAN Support: It should be based on IEEE 802.1Q and 802.1P.		
24.	System must support automatic channel selection and select alternative channels in conformance with the country of operation.		
25.	Radio System should support Asymmetrical Bandwidth up to 25% - 75% and vice a versa (Uplink/DownLink)		
26.	Radio should have capability of GPS Sync to synchronize timing of radios installed in the entire solution with built-in GPS.		
27.	Radio System must have inbuilt Spectrum analyzer tool to provide local, remote and combined results of the link.		
28.	Safety Standard:		
29.	The Radio should support safety standards - UL/EC/EN/ 60950-1 + CSA-22.2 or better standards.		

30.	The Radio should support the lightening protection as per EN 61000-4-5. The radios should support FCC Part 15. or better standards.		
31.	Temperature supported should be -10° C to 60° C.		
32.	Operating humidity for the outdoor radio should be 5 to 100% condensing.		
33.	OEM should provide requisite technical support during network feasibility survey and network designing		
34.	OEM's service center or OEM's authorized service center in India.		
35.	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Outdoor Gigabit Network Managed Switch: Type-1:

S.No.	Particulars	Compliance	Remarks/
		(Yes/No)	Deviation
1	Make:		
2	Model:		
3	Port: 8 ports of 10/100/1000 Base-Tx (PoE+ Enabled), 2x1Gbps (Single mode LR SFP) along with required SFP module (Loaded with same OEM) and patch chords for all interfaces to be included		
4	Network Protocol: IEEE: 802.3 Ethernet, 802.3u Fast Ethernet, 802.3x Flow Control, 802.3ab Gigabit Ethernet, 802.1p QoS, 802.1x		
5	Should be IPV4 and IPV6 supported		
6	Power: 100-240 VAC, 50/60Hz Internal Universal Power AC/DC power adaptor to be provided or the Switch shall support 100-240 VAC and dual DC input, POE budget >= 240W, with DIN rail support.		
7	Switch should Certified FCC Class A, CE, ROHS, NEMA-TS2, Shock-Drop-Vibration Test, and UL (All certificates should be enclosed with bid)		
8	Environment: -2° to 60°C Temperature 5% ~ 95% RH (Non-condensing) Humidity		
9	OEM's service center or OEM's authorized service center in India.		
10	The OEM should exist in the magic quadrant for the wired and wireless LAN access infrastructure of latest Gartner report		
11	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Precision Air Conditioning Unit:

S.No	Particulars	Compliance	Remarks/
		(Yes/No)	Deviation
1	Make		
2	Model		
3	Cooling Capacity: At least 7KW or better with heaters according to requirement		

4	Evaporating Section (Internal Unit)		
4.1	Self-Supporting Panels: in galvanized sheet painted with epoxy powder, lined with self-extinguishing and sound absorbing material.		
4.2	Filter in self-extinguishing material with EU2 efficiency (doc. Eurovent 4-5) fitted in rigid metal frame.		
4.3	Double inlet CENTRIFUGAL FANS in galvanized steel with forward-curved blades keyed directly to the motor axis.		
4.4	Airflow Sensor for activating an insufficient airflow alarm		
4.5	Cooling Coil with large frontal area, in copper tubing mechanically expanded into aluminum fins; stainless steel condensate drain tray with flexible tube.		
4.6	Electrical Re-Heat with aluminum finned elements and safety thermostat for power supply cut off and alarm activation in the event of overheating.		
4.7	Air Distribution Plenum: complete with delivery grille with double row of slats.		
4.8	Microprocessor Control; including room, external and mixed temperature sensors (see relative specifications).		
4.9	Electrical Panel conforming to norm 73/23/CEE and housed in a compartment isolated from the airflow: •auxiliary 24V transformer; •mains switch; •magnetothermal protection; •contactors.		
4.10	Refrigerant Circuit including: filter-dryer and liquid sight glass; thermostatic expansion valve; IN/OUT refrigerant shut-off valves.		
5	Monitoring: Software for monitoring of PAC performance can be installed at servers of local CCC to monitor all installed PACs.		
6	Condenser Section (External Housing/Unit)		
6.1	Protection: Entirely in painted galvanized steel which guarantees resistance to the elements. The Panels are painted with RAL9001 colour. The paint used conforms to norm ASTM B 17 which includes resistance to saline mist; these units are able to withstand even the harshest of environments. All external fastenings are in stainless steel and the closing mechanism gives IP44 protection.		
6.2	Hermetic Scroll Compressors with high energy efficiency, low noise operation and built-in Thermal protection.		
6.3	Axial Fans, statically and dynamically balanced on two planes, with non-rusting blades, external rotor motor suitable for variable speed control, mounting on a metal support frame and which conforms to safety norms.		
6.4	Variable Condenser Fan Speed in relation to condensation pressure.		
6.5	Electrical Panel in a separate housing out of the airflow, conforming to norm 73/23/CEE with: • main switch; • contactors and magnetothermal protection		
6.6	High and Low-Pressure Pressostat Transducer for reading of condensation pressure		
6.7	Optional Accessories User Terminal for the setting and display of unit function parameters		
6.8	Blocked Air Filter Alarm Sensor: dirty filter control Pressostat		
6.9	Clock Card for the management of time and date events		

6.10.	RS422 / RS485 Serial Output for the transmission of data to a centralized supervision system		
6.11	Double Electrical Power Supply for normal function with mains power and with emergency UPS for the fan, control and external air damper.		
6.12.	Condensation Drain Pump for when gravity cannot be used.		
6.13.	EU4 Filter (doc Eurovent 4-5) (Optional)		
6.14	LAN Card for connection of units in Local Area Network.		
6.15.	Sensor for room temperature and humidity.		
7	Microprocessor based Control:		
7.1.	The microprocessor gives autonomous unit management. The control includes: • Carel microprocessor control circuit; • User interface (optional) • Room temperature sensor • Delivery air temperature sensor.		
7.2.	The control system should comprise a circuit board housed in the electrical panel and a user interface terminal.		
7.3	All the control algorithms and memorization of function parameters are contained in the microprocessor.		
7.4.	Once it has been programmed the circuit board can function without the user terminal, allowing the unit to be controlled by a remote terminal up to 200 m from the air conditioner. One terminal can be shared by several units. The control circuit. provides the following functions: • control of room temperature • control of absolute humidity via an optional humidity sensor in the room; • de-humidification management. • management of optional electrical heater; • management of alarms. • management of stand-by if two units are connected; • alarm system with visual and acoustic indicators; • signal contacts for each type of alarm; • automatic re-start with restoration of minimum tension; • programmable delay of re-start for multiple installations; • control of compressor activation (limiting start-up frequency); • programmable control (remote control or supervision); • compressor start cycle with low external temperature; • password for two programming levels (for setting and for		
8	Hardware/Software Configuration: • RS422 or RS485 serial output (optional); • time/Date circuit (optional); • main component run hour counter • maintenance programming with explicit indications of operations to be carried out; • memorisation of the last 30 alarms (with date and time if optional time/date board is installed); • verbal visualisation of function type and of components in operation (with optional user terminal); • Weekly time bands for switching unit on/off (with optional clock board) including weekdays, weekends and holidays.		
9	Sleep Mode:		

9.1.	The unit remains in stand-by but maintains room temperature between two pre-set limits and humidity below a pre-set limit (with optional internal humidity sensor);		
9.2	override function for manual control of main components without the exclusion of the remote control (if fitted)		
9.3	Optimized control algorithm which constantly monitors the temperature of the room, of the air outside and of the discharge air in order to maximize the effectiveness and efficiency of both the direct expansion and the intelligent free cooling functions. This means that free cooling can start earlier and continue for longer and at higher external temperatures since they take into account the effective load conditions inside the air-conditioned room		
9.4	Stand-by, giving maximum energy saving		
9.5	Immunity to electromagnetic and electrostatic disturbance.		
9.6	The units do not need external mains filters or condensers for absorbing disturbances and commuting loads.		
9.7	mP20 microprocessor control has passed all the tests under Norm EN50082-2 for industrial environments.		
9.8	When the units are off, the "SLEEP MODE" function ensures that room temperature stays within the pre-set limits. If the high/low limit is exceeded the microprocessor control steps in, switching on one or both of the units to bring conditions back inside the thresholds. This function protects against faults in the external control system.		
10	Remote Signaling of Alarms: The following potential-free clean contacts are available in the microprocessor control circuit for the remote signaling of alarms: • cumulative addressable: the alarms to be excluded can be selected from the keypad. • compressor • fan • dirty filters • electrical resistance		
11	Management Capability of Two Units: If two units are installed it is possible to connect the two microprocessor controls electrically in order to manage the function of two units without an external management system. The control circuit manages the following situations: • one unit functioning and the other in stand-by • the switching on of the reserve unit if there is an alarm in the functioning unit; • the rotation on a time basis of which unit is functioning in order to divide the workload between the two; • the switching on of the second machine in the event that a pre-set temperature threshold is exceeded in room. This function can be disabled if, for electrical reasons, two units cannot function simultaneously. • If two UCF free-cooling units are installed together the following function logic is applied as the outside temperature or the thermal load increases:		
12	Should be properly earthed as per IEC standards. Earthing test reports to be submitted at installation.		
13	OEM's service center or OEM's authorized service center in Rajasthan/India.		
14	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Rack Server:

S. No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	1U/2U Rack Mountable		
4	Minimum Dual Intel 3rd Gen Xeon Silver 4316. Each with 20 Cores wit 2.3 GHz base clock speed or equivalent Processor or better Pro-cessor		
5	Motherboard: Latest Intel Series Chipset compatible with processor		
6	Memory: Minimum 256 GB DDR4 ECC RDIMM/LRDIMM (OEM Memory).		
7	OS & Application Disk: 2 x 480 GB SSD in RAID 1 configuration or better		
8	RAID Controller: Minimum 12 Gbps PCIe 3.0 RAID Controller with support for RAID 1, 5, 10, 50 and 8 GB cache (onboard or PCIe) or better		
9	Optical Drive: Internal/External DVD-ROM Drive		
10	Network: Min 2 x 1Gbps (RJ45), 2 x 10Gbps LR SFP+ (with SFP mod-ule compatible with supplied switch) providing Hardware accelera-tion and offloads for stateless TCP/IP, TCP Offload Engine (TOE) and Jumbo frames or better		
11	Dual port 16Gbps FC HBA for SAN Connectivity		
12	Interfaces: Front ports: Video, 1 x USB 2.0, dedicated remote access controller Direct USB Rear ports: Video, serial, 2 x USB 3.0, dedi-cated remote access controller network port or better		
13	FANs: Redundant hot-pluggable		
14	Power Supply: Redundant Platinum/Titanium rated PSUs (Ac-tive/Standby), FCC Class A certified		
15	Graphics: Integrated		
16	Industry Standard Compliance: ACPI 2.0 Compliant, PCIe 2.0/3.0 Compliant, USB 3.0/2.0 Support, UEFI (Unified Extensible Firm-ware Interface Forum)		
17	Embedded System Management: OEM Systems Management Soft-ware to be included, Should support service alerting, reporting and remote management with dedicated Gigabit management port, Server should support configuring and booting securely with indus-try standard Unified Extensible Firmware		
18	Security: Power-on password, Serial interface control, Administra-tor's password, UEFI, Should support multiple customizable user accounts on management port and SSL encryption, Should also support directory services integration, TPM 1.2		
19	Certification: Should be certified on the MS-Windows / RHEL OS		
20	Cables/ Connectors: All required cables and connectors to be in-cluded for all populated ports and interfaces		
21	Genuine MS-Window Server Standard/ RHEL LINUX (latest version) with Internet Security (latest version) of Symantec/ Trend Micro/ Sophos Server Security with Media & 5 Year Subscription (OEM Support, Updates,Patches)		

22	Server Remote Management Systems (e.g. IMM / ILO/ ILOM/ DRAC etc.)		
23	OEM's service center or OEM's authorized service center in India.		
24	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: External Storage:

Sr. No.	Feature	Description	Compliance (Yes/No)	Re- marks
1.	Make			
2.	Model			
3.	Storage Controller	The Storage system should a unified system supporting all Block and File protocols natively in active-active configuration. All controllers should be actively participating in capacity & performance of storage such that any volume & LUN can be accessed from any controller. Storage operating system must not be a general purpose OS.		
4.	Drive Support	The unified system must support intermixing of dual ported 12Gbps SSD, SAS and NLSAS drives to meet the capacity and performance requirements of the applications. The system must support a minimum of 480 disks in a dual controller architecture.		
5.	High Availability	The unified storage system must be configured to continuously serve data in event of any controller failure. In addition to this, it must also be possible to withstand failure of any 3 disks per RAID-Group. In case offered storage does not offer 3 drive failure per RAID group then they should offer additional 10% drives as hot spare.		
6.	Storage Capacity	Storage must have supplied with 300 TB usable capacity on dual ported 12 Gbps NLSAS drives. Hot spare disks should be as OEM recommendation. The system should be able to support continuous recording for 200 number of cameras simultaneously.		
7.	Front-End and Backend connectivity	The proposed unified storage system should have minimum 4 x 10GigE Ports + 4 x 32/16 Gb FC ports for host connectivity across controller. Each controller should be offered with minimum 4 x 12Gbps SAS ports for backend connectivity. Storage should support 25G connectivity.		
8.	Rack Mountable	The unified storage should be supplied with rack mount kit. 10G SFP Module and Fiber Patch Cord shall be provided.		
9.	Storage Scalability and Upgradability	1. The unified proposed system should be field upgradeable to a higher model through data-in-place upgrades. 2. Unified Storage system should allow re-usage of Disk Shelves with higher models of the same product line.		
10.	Data security & Data protection	The unified storage should have the requisite licenses to create point-in-time snapshots. The license proposed should be for the complete supported capacity of the unified system for both block and file. The unified system should support instant creation of clones of active data, with near zero performance impact for both block and file.		
11.	Management	Single management, easy to use GUI based and web enabled administration interface for configuration, storage management and performance analysis tools for both block and file.		

12.	Remote Support & Diagnostics	Storage management should support "Call home" facility with web based self-service portal providing an integrated, efficient monitoring and reporting capability and supporting data collection. Management software should provide features like: 1. Automated call home feature 2. Nonintrusive alerting 3. Performance and Capacity reports 4. Ongoing health check analysis		
	OS support	Support for industry-leading Operating System platforms including. Any Multipathing software required for the solution must be supplied for unlimited host connectivity		
13.	Storage Efficiency	Proposed unified storage should support Inline as well As Post Process block level data de-duplication, compression for all kinds of data on both block and file for the offered capacity.		
14.	Upgrade Protection	OEM must provide a written confirmation to provide drive and controller upgrades for the offered configuration for a period of 7 years from bid date.		
15.	Storage Quality Certification	The Storage OEM should be established in the latest Gartner Leader Quadrant		
16.	Authorized Service Center	OEM's service center or OEM's authorized center in India.		
17.	Warranty:	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Gigabit Managed Network Switch: Type-2:

S.No.	Particulars	Compliance (Yes/No)	Remarks/Deviation
1	Make		
2	Model		
3	Layer 3 Managed		
4	Port: Atleast 24 x 1Gbps(RJ45) and 4 X 10 Gbps (single mode LR SFP+), SFP to be included along with patch chord (7 ft) for all ports		
5	IPv6 over Ethernet, dual stack, IPv6 over IPv4 network, IPv6 neighbor discovery, stateless address configuration, maximum transmission unit (MTU) discovery, WEB, SSL, Telnet, Ping, Traceroute, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, ACLs, QoS		
6	Switching Capacity: atleast 128Gbps nonblocking		
7	PVE/ Private VLAN feature/ equivalent		
8	Cabling type: Unshielded twisted pair (UTP) Category 5 or better		
9	Built-in web user interface for easy browser-based configuration (HTTP/HTTPS)		
10	SNMP versions 1, 2c, and 3 with support for traps		

11	Port based; 802.1p VLAN priority based; IPv4/v6 IP precedence/ToS/DSCP based; DiffServ; classification and re-marking ACLs		
13	Power: 100–240V 47–63 Hz, internal, universal		
14	POE: POE Compliant (IEEE 802.3af/at)		
15	Certification: FCC Class A, ROHS		
16	Operating Environment: 0° to 45°C Temperature - Humidity 10% to 90%, noncondensing		
17	The OEM should exist in the magic quadrant for the wired and wireless LAN access infrastructure of Latest Gartner report		
18	OEM's service center or OEM's authorized service center in India		
19	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Client PC:

S.No.	Particulars	Compliance	Remarks/
		(Yes/No)	Deviation
1	Make		
2	Model		
3	Processor: Intel Core i5 14th Generation processor or equivalent or better.		
4	Chipset: Compatible Chipset		
5	Memory: 16 GB DDR4 RAM expandable to 64 GB or better		
6	2 x 1 TB Serial ATA HDD or higher		
7	Internal DVD Writer		
8	Monitor: 23" inch TFT LED Digital Colour Monitor, TCO' 06 certified monitor		
10	Keyboard: OEM USB Keyboard		
11	Mouse: OEM Two button USB Optical Scroll Mouse w/ Pad		
12	Cabinet: Mini Tower with Tool less chassis		
13	I/O Ports: Minimum One Serial Port, 1 RJ45 port for Gigabit Ethernet, min. 2 USB ports in the front, min. 4 USB ports at the back, Headphone (front), Microphone(front), Line in, Line out, VGA Port		
14	Network Features: 10/100/1000 on board integrated network port		
16	Multimedia: Integrated Audio and Graphic Controller		
17	Preloaded Software: Genuine MS-Windows 11 Professional or latest License with OEM recovery partition		
18	Antivirus: Internet Security (Latest version) of McAfee/Norton/		

	Kaspersky/ Quick heal/ Trend Micro/ Sophos with Media & 5 Year Subscription (OEM Support, Updates, Patches)		
19	Certifications: RoHS-compliant, Windows Certified		
20	Other Accessories: Patch Chord (7 ft.) to be bundled		
21	OEM's service center or OEM's authorized service center in India		
22	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Display for 24x7 display:

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	Type: IPS Panel, LED slim monitor		
4	Display Size: 55 Inch		
5	Display Resolution: Full HD (3840X2160) or better		
6	Aspect Ratio: 16:9		
7	Brightness: Minimum 450 cd/m ² or better		
8	Contrast Ratio: 1100:1 or better		
9	Viewing Angle: 178°/178° or better		
10	Input Ports : HDMI (3), DP, DVI-D, Audio, USB (2), RJ45 (LAN) In, IR In		
11	Output Ports : DP, Audio (Off/Fixed/Variable),		
12	Inbuilt speaker (10W X2 or better)		
13	HDMI, USB and RGB ports (at least 1 of each type)		
14	Certifications : IEC 60950-1 / EN 60950-1 / UL 60950-1, FCC Class "A" / CE / KC, BIS		
15	Cable (Power/ RGB/ HDMI) and other required cables and connectors		
16	Compatible with latest Windows/ Linux version along with software compatibility		
17	Media Player: Compatible & Software Support		
18	In-built Wifi		
19	Operating hours: 24 X 7		
20	Rotation: Portrait & Landscape		
21	Accessories: Wall mount bracket, Table mount stand, remote, batteries, manual, adaptor, all cables, cord etc.		
22	OEM's service center or OEM's authorized service center in India		
23	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of go-live		

Item: Chairs:

S.No.	Particulars	Compliance	Remarks/
		(Yes/No)	Deviation
1	Make		
2	Model		
3	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.		
4	MID BACK SIZE: 47.5 W X 58 H cm		
5	Seat Size: 47 W X 48 D cm		
6	Foam Density: The HR polyurethane foam is moulded with density +45 + 2 Kg/m ³ and hardness 16 + 2 kgf as per IS :7888 for 25% compression		
7	Pneumatic Height Adjustment: The pneumatic height adjustment has an adjustment stroke of 12 +/- .3 cm.		
8	ARMRESTS: The one piece armrests are injection moulded from black copolysted polypropylene.		
9	REVOLVING MECHANISM: The chair has mechanism 360 degree revolving type.		
10	WHEEL CASTORS: The twin wheel castors are injection moulded in Black Nylon.		
11	TELESCOPIC BELOW ASSEMBLY: The below assembly is 3 piece telescopic type injection moulded in black polypropylene		
12	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+ .5 cm pitch center dia 76.3+ 1 cm castors.		
13	COLOR OPTIONS: Color options should be available viz. Blue, Red etc. (Color shall be decided at the time of order)		
14	OEM's service center or OEM's authorized service center in India.		
15	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: UPS:

S.No	Particulars	Compliance	Remarks/
		(Yes/No)	Deviation
1	Make		
2	Model		

3	10 KVA Online UPS with monitoring software and isolation transformer.		
4	Rack Mountable UPS With Rail Kit		
5	Proper LED/LCD screen to monitor the UPS with following measures and fault indication:		
	• Input: Voltage / Frequency		
	• Output: Voltage / frequency		
	• Battery: Remaining time / Voltage		
	• Load: Percentage / Kw		
	•Charger Failure		
	•Battery Low Battery Failed		
	•Overload		
	•AC indicator/Battery Mode of Operation /Bypass		
	• feeding the load / UPS Fault		
6	Audible Alarm: Battery Low beep / DC Fault beep/ UPS Overload beep/ o/p short ckt fault beep/ Shutdown beep		
7	• SMF Batteries for backup atleast for 2 hours •Battery recharge time (After complete discharge) to 90% capacity in 8-10 hours Note: Please include on refresh cycle after 2.5/ 3 Years		
8	• Input range: 330-460 V Three Phase		
	• Input Power factor: 0.9 or better		
9	Output Range: 220V/230V/240V single phase selectable Output Power factor: UPF		
10	Efficiency: Overall 90% or better		
11	Transfer Time (Mode of operation):		
	• Nil from Mains mode to Battery Mode		
	• Nil from Battery Mode to Mains mode		
	• Inverter to Bypass / Bypass to Inverter < 2 ms (Synchronized Mode)		
12	Interface to NMS:		
	• SNMP Card for connecting the UPS to LAN thru Ethernet port & monitoring thru NMS should be available along with Battery Temperature Sensor.		
	• RS232 Port should be provided as standard in the UPS. However, there should be provision for USB port also in the UPS		
13	Remote Monitoring:		
	UPS Should be supplied with data-driven digital monitoring service for your critical equipment, increasing resiliency and transparency through live sensor data. predictive analytics and smart alarming delivered directly to your Smartphone. Remote troubleshooting is provided by the experts monitoring your connected assets 24x7.		
14	UPS should start up (cold start)		
	• On AC Supply (Mains) without DC Supply (Batteries)		
	• On DC Supply (Batteries) without AC Supply (Mains)		

	UPS should start up automatically on mains		
	resumption after battery low shutdown		
15	UPS should have internal anticorrosion air filters for dust		
	Filtration		
	Natural Convection Cooling through air vents		
16	Should be properly earthed as per IEC standards. Earthing test reports to be submitted at installation.		
18	Noise: < 60 dbA at 1 meter distance		
19	OEM's service center or OEM's authorized service center in		
	Rajasthan.		
20	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: APFC Panel:

S.No.		Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	APFC Panel 50KVAR (1,2,2,5,10,10,10,10 KVAR Steps) or better		
4	3.5 Core, 50sqmm, Alu Armoured Cable (atleast 50 Mtr or more as required))		
5	Termination of 50sqmm(Including lugs & Glands) (atleast 2 and more as required)		
6	Atleast 2 Earthing: Supply installation testing and commissioning of maintenance free GEL earthing dual pipe technology of 3 mtr long 50 mm dia with the adequate galvanization of 300 microns filled with special conducting compound, 50 Kgs of Moisture Booster to retain the moisture duly tested & certified by CPRI Laboratory.(Copper)		
7	Copper Strip (25*3)mm (atleast 10 or more as required)		
8	OEM's service center or OEM's authorized service center in Rajasthan		
9	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of project Go live.		

Item: Split Air Conditioner :

S.No.		Compliance (Yes/No)	Remarks/ Deviation
1.	Make		
2.	Model		
3.	Tonnage :1.5 Ton or better		
4.	Cooling Capacity: 18000 Btu/hr		
5.	Compressor Type: Rotary/Tropical		
6.	EER :3.5 or better		
7.	Noise Level (Indoor) <45db		

8.	Features: Auto Air Swing, Speed Setting, Auto Re-start, 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-Year comprehensive on-site OEM Warranty from the date of project Go live.		

ANNEXURE-12: 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-Sale within **next twelve months** from the date of bid submission.

We hereby confirm that the offered Hardware/ Software is not likely to be declared as End-of-Service/ Support within entire contract period 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-13: FORMAT FOR SUBMISSION OF PROJECT REFERENCES FOR PRE-QUALIFICATION EXPERIENCE

Project No.: 1 / 2 / 3 <i>(Strike out as S.No. of Project to be considered in this bid for evaluation)</i>	
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 (month/year):	
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: PRE-BID QUERIES FORMAT

Name of the Company/Firm: _____

Bidding Document Fee Receipt No. _____ Dated _____ for Rs. _____/-

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). Queries not submitted in the prescribed format will not be considered/ responded at all by the procuring entity.

ANNEXURE-15: FINANCIAL BID COVER LETTER & FORMAT COVER LETTER {to be submitted by the bidder on his Letter head}

To,
Managing Director,
RISL,
Jaipur (Raj.)

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 in conformity with the said bidding document.

I/ We undertake that/ to: -

- the quoted prices are in conformity with the requirements 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).
- if awarded the contract, I/ we shall submit the prescribed performance security deposit and shall supply/ work in accordance with the prescribed timelines.
- 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.
- 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.
- you are not bound to accept the lowest or any bid you may receive.

We unconditionally 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

- This is an indicative BoQs. The BoQs available at e-procurement portal shall be considered as final.
- Bidder has to quote compulsorily in all items in each BOQ otherwise complete bid will be rejected.
- All BOQs should be filled considering the all costs of required components/ accessories/ deployment/ maintainance/ manpower/ warranty or any other work/ services to keep WS&APS system up & running for five years.
- All BOQs will be used to arrive L1 bidder.
- GST shall be paid on actuals as per prevailing rates
- All BOQs should be filled considering the all costs of required components/ accessories/ deployment/ maintainance/ manpower/ warranty or any other work/ services to keep WS&APS system up & running for five years.
- This BOQs 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.
- Quantity mentioned in the BOQs are indicative to arrive L1 bidder and it may vary as per requirement, however the payment shall be made on actual basis.
- The Bidders needs to submit their Financial Proposal at e-procurement website as per the below mentioned templates

BOQ-1 (Replacement/upgrade with 5 Year warranty):

Tender Inviting Authority: Managing Director, RISL											
Name of Work: RFP for Upgradation(replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5.5 Years based on Open Competitive Bidding through e-Procurement/ e-Tender											
NIT Ref. No.: F4.3(613)/RISL/Tech/2024/100							Dated:08.04.2026				
				Bidder Name:							
1	2	3	4	5	6	7=5-6	8=4X7	9	10	11 =8+10	
S. No.	Item Descrip- tion	Unit	Qty .	Unit Rate includ- ing all taxes and levies but ex- clud- ing GST (In Rs.)	Unit Buy back Rate including all taxes and levies but ex- cluding GST (In Rs.)	Net Unit Rate after deducting Buy back value	Total Amount including all taxes and levies but ex- cluding GST (In Rs.)	GST on Col. 8(In %).	Total GST (In Rs.)	Total Amount including all taxes and lev- ies (In Rs.)	
1.	Radio Setup	Nos.	23								
2.	Gigabit Net- work managed Switch: Type-1	Nos.	53								
3.	Solar Panels	Nos.	360								

4.	Solar Solution (including Charge Controller Inverter + Batteries + Container Box)	Nos.	110							
5.	Rack Server	Nos.	4							
6.	External Storage	Nos.	2							
7.	Gigabit Managed Network Switch: Type-2	Nos.	3							
8.	Client PC	Nos.	11							
9.	Display	Nos.	5							
10.	Chairs	Nos.	25							
11.	UPS	Nos.	10							
12.	PAC	Nos.	10							
13.	AC	Nos.	3							
14.	APFC Panels	Nos.	5							
Total in Figures										
Total in Words										

Note1: These are tentative quantities and may be vary as per project requirement.

Note2: APFC Panel is the new line item hence buy back value of APFC Panel will be Zero.

Note3: Solar solution buyback includes per unit existing (1PCU (Charging unit and inverter),1 Container Box ,8 Lead acid batteries).

Note 4: Buyback value not applicable on Switch type-1.

BOQ-2 (Comprehensive Annual Maintenance Contract (CAMC)):

Tender Inviting Authority: Managing Director, RISL								
Name of Work: RFP for Upgradation (replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5.5 Years based on Open Competitive Bidding through e-Procurement/ e-Tender								
NIT Ref. No.: F4.3(613)/RISL/Tech/2024/100					Dated: 08.04.2026			
Bidder Name:								
1	2	3	4	5	6=4X5	7	8	9 =6+8
S. No.	Item Description	Unit	Qty.	Unit Rate for CAMC as per scope of RFP including all taxes and levies but excluding GST (In Rs.) for 5.5 Years (22 Quarter)	Total Amount including all taxes and levies but excluding GST (In Rs.)	GST on Col. 6 (in %).	Total GST (in Rs.)	Total Amount including all taxes, GST, and levies (In Rs.)

1.	Observable Thermal With clear vision PTZ assembly with embedded video en-coder	Nos.	56					
2.	Unmanned Ariel Vehicle (UAV)/Drone with pilot	Nos.	5					
3.	IP Indoor Camera with IR (Dome)	Nos.	56					
4.	Full HD IP Bullet Camera With IR	Nos.	112					
5.	Full HD IP PTZ Camera With IR	Nos.	56					
6.	Radio Setup	Nos.	88					
7.	Weatherproof network cable	Mtr.	17500					
8.	Solar Panels	Nos.	1320					
9.	Solar Panels Mounting Structure with Installation and Elevated Control room	Nos.	110					
10.	Solar Charge Controller and Inverter (3 KVA)	Nos.	110					
11.	Batteries	Nos.	880					
12.	Tower with elevated foundation and installation (30-40 Mtr)	Nos.	47					
13.	Tower with elevated foundation and installation (45 Mtr)	Nos.	9					
14.	Power Cable	Mtr.	10037					
15.	Copper Cable	Mtr.	7420					
16.	Lighting Protection and Earthing	Nos.	56					
17.	Aviation Light	Nos.	56					
18.	Outdoor Box	Nos.	57					
19.	Modular Container	Nos.	5					
20.	Rack Server	Nos.	10					
21.	External Storage	Nos.	5					
22.	Standard Managed Router	Nos.	5					
23.	Gigabit Managed Network Switch: Type-2	Nos.	10					
24.	Client PC	Nos.	14					
25.	Display	Nos.	14					
26.	Workstation Cabinet	Nos.	29					
27.	Chairs	Nos.	29					
28.	container IP Indoor Camera with IR (Dome)	Nos.	10					
29.	Weatherproof network cable	Nos.	820					
30.	Tower with elevated foundation and installation (45 Mtr)	Nos.	2					
31.	Power Cable	Mtr.	230					
32.	Lighting Protection and Earthing	Nos.	2					
33.	Aviation Light	Nos.	2					
34.	UPS	Nos.	10					

35.	DG Set with AMF	Nos.	5					
36.	Radio Over IP	Nos.	10					
37.	Base Radio Station	Nos.	16					
38.	Digital Handset with API Query Licenses	Nos.	175					
39.	AC	Nos.	2					
Total in Figures								
Total in Words								

Note 1: These are tentative quantities and may be vary as per project requirement

Note 2: If any item is replaced during the contract period, AMC will not be provided for the replaced item for the remaining duration of the contract.

BOQ-3 (FMS with Manpower):

Tender Inviting Authority: Managing Director, RISL								
Name of Work: RFP for Upgradation (replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5.5 Years based on Open Competitive Bidding through e-Procurement/ e-Tender								
NIT Ref. No.: F4.3(613)/RISL/Tech/2024/100						Dated:08.04.2026		
Bidder Name:								
1	2	3	4	5	6=4X5	7	8	9 =6+8
S. No.	Item Description	Unit	Qty.	Unit Rate for FMS with manpower Services for per quarter as per scope of RFP including all taxes and levies but excluding GST (In Rs.)	Total Amount including all taxes and levies but excluding GST (In Rs.)	GST on Col. 6 (in %).	Total GST (in Rs.)	Total amount including all taxes,GST , and levies (In Rs.)
1	FMS and manpower services for WS&APS Phase1 as per scope	Quarter (3 months)	22					
Total in Figures								
Total in Words								

Note: These are tentative quantities and may be vary as per project requirement.

BOQ-4 (Repair and Maintenance)

Tender Inviting Authority: Managing Director, RISL								
Name of Work: RFP for Upgradation(replacement/upgrade) and procurement of Comprehensive Annual Maintenance Contract (CAMC) & FMS of WS&APS Phase 1 Project in State of Rajasthan for 5.5 Years based on Open Competitive Bidding through e-Procurement/ e-Tender								
NIT Ref. No.: F4.3(613)/RISL/Tech/2024/100						Dated:08.04.2026		
				Bidder Name:				
1	2	3	4	5	6=4X5	7	8	9 =6+8
S. No.	Item Description	Unit	Qty.	Unit Rate including all taxes and levies but excluding GST (In Rs.)	Total Amount including all taxes and levies but	GST on Col. 6(In %).	Total GST (In Rs.)	Total Amount including all taxes and levies (In Rs.)

					exclud- ing GST (In Rs.)			
Container Items								
1.	Modular Container Repair and Maintenance of following items:(Wiring, earthing, CCC Paint, Waterproofing, LT panel, Fire extinguishers, Water leak detection system, Rodent repellent system, Biometrics, Fire alarm system, Gas suppression system, Floor repairing etc.	Nos.	5					
2.	Client PC (Motherboard, keyboard/mouse, OS troubleshooting, formatting, software and connectivity issues)	Nos.	7					
3.	Display (power supply faults, display panel issues, HDMI/VGA port issues)	Nos.	4					
4.	AC – Basic Maintenance (filter cleaning, coil cleaning, general servicing, gas pressure check & minor gas refilling)	Nos.	5					
5.	Ac repairing (compressor, blower motor, PCB, thermostat, condenser/evaporator coil, electrical faults, gas leakage rectification)	Nos.	3					
6.	DG Set (engine servicing, oil & filter replacement, alternator inspection, control panel troubleshooting, fuel system maintenance)	Nos.	3					
7.	Server	Nos.	2					
8.	Switch Type-2 (Port repair, power supply faults, basic configuration restore if impacted)	Nos.	3					
Tower Items:								
10.	Tower Earthing (earthing pit repair, resistance improvement, chemical treatment, earthing strip/wire replacement)	Nos.	56					
11.	Network and Electrical Cable connections check and repair	Lot (Per tower)	56					
12.	Outdoor box Repairing (enclosure repair, lock &	Nos.	56					

	hinge fixing, weather-proofing, Paint)							
13.	Lightning Protection and earthing (arrester repair, down conductor fixing, proper grounding restoration)	Nos.	56					
14.	Tower and Solar Mounting structure (civil work including paint)	Nos	10					
15.	Aviation light (wiring repair, power supply issues)	Nos.	11					
16.	Consumables (Cable lugs, Screws, fuses, Connectors)	Lot (Per tower)	56					
	Total in Figures:							
	Total in Words:							

Note 1: Quantities mentioned in this BOQ are indicative and may vary during execution based on actual site conditions, asset availability, and operational requirements.

Note 2: Bidder is advised to visit the site(s) and understand the existing infrastructure, environmental conditions, and working requirements before submission of the bid. No claims arising out of lack of site understanding shall be entertained later.

Note 3: All consumables such as screws, lugs, ferrules, connectors, cable ties, insulation materials, sealants, and other minor accessories required for maintenance and repair shall be included in the quoted rates.

Note 4: Any activity involving complete replacement of equipment shall not be billed under BOQ-4 and shall be executed and paid under BOQ-1 (Replacement Items), as per approved rates.

ANNEXURE-16: 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, Yojana Bhawan, 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, Yojana Bhawan, 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.....datedmade 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.....(rupeesonly), we(indicate the name of the Bank), (hereinafter referred to as "the Bank") at the request ofContractor(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, until 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-17: DRAFT AGREEMENT FORMAT (to be mutually signed by bidder and procuring entity)

This Contract is made and entered into on this _____ day of _____, 2016 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 _____ (herein 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 M/s..... at the rates set forth in the LOI no. _____ dated _____ will duly supply the said articles/ services set forth 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 supplier shall duly supply the said articles and 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 supplier, at the time and the manner set forth in the said conditions of the RFP, the amount payable for each and every project milestone & deliverable. 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 effected from the date of LOI i.e. _____ and completed by supplier within the period as specified in the RFP document.
5. In case of extension in the delivery and/ or installation period/ completion period with liquidated damages, the recovery shall be made on the basis of following percentages of value of stores/ works which supplier has failed to supply/ install/ complete: -

a) Delay up to one fourth period of the prescribed delivery period, successful installation & completion of work	2.5%
b) Delay exceeding one fourth but not exceeding half of the prescribed delivery period, successful installation & completion of work.	5.0%
c) Delay exceeding half but not exceeding three fourth of the prescribed delivery period, successful installation & completion of work.	7.5%
d) Delay exceeding three fourth of the prescribed delivery period, successful installation & completion of work.	10.0%

Note:

- i. Fraction of a day in reckoning period of delay in supplies/ maintenance services shall be eliminated if it is less than half a day.
 - ii. The maximum amount of agreed liquidated damages shall be 10%.
 - iii. If supplier requires an extension of time in completion of contractual supply on account of occurrence of any hindrances, he shall apply in writing to the authority which had placed the work order, for the same immediately on occurrence of the hindrance but not after the stipulated date of completion of supply.
 - iv. Delivery period may be extended with or without liquidated damages if the delay in the supply of goods in on account of hindrances beyond the control of supplier.
6. This agreement is being executed on behalf of M/s (Concerned Department)....., to procure defined goods and services, RISL is acting merely as a Pure agent who neither intends to hold or holds any title to the goods and services are required to be delivered in the name M/s (Concerned Department).....along with invoices of supplied items, although payment will be made by RISL on behalf of said department.
7. 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 _____, 2019.

Signed By:	Signed By:
() Designation: Company:	() Managing Director, RISL
<i>In the presence of:</i>	<i>In the presence of:</i>
() Designation: Company:	() Designation:
() Designation: Company:	() Designation:

ANNEXURE-18: MEMORANDUM OF APPEAL UNDER THE RTTP ACT, 2012

Appeal NoOf

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):
 - a. <please specify>
 - b. <please specify>
 - c. <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-19: 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

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

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

Common Seal of has been affixed in my/our Second Member presence pursuant to Board of Direc- tor's resolution dated 1) Witness 2) Witness	For and on behalf of M/s..... (Second member) (Signature of authorized representative) Name : Designation::
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ANNEXURE-20: -EXISTING WS&APS COMPONENTS IN PHASE-I:

The location wise list of WS&APS components commissioned in Phase-I is given below:

S. No	Description of Work / Item(s)	Units	Approved Product	RTR	STR	MHTR	JNP	JLCR	Total
A.	Onsite Setups								
1.00	Thermal Sensors with Clear vision PTZ assembly with embedded Video Encoder and Per tower Agent app and configuration	Nos	Hikvision-DS-2TD6168-V15A2L	12.00	16.00	16.00	8.00	4.00	56.00
2.00	IP Indoor Camera with IR (Dome)	Nos	Hikvision-DS-2CD2722 FWD-IZSN	12.00	16.00	16.00	8.00	4.00	56.00
3.00	Full HD IP Bullet Camera With IR	Nos	Hikvision-DS-2CD2622FWD-IZS (b)	24.00	32.00	32.00	16.00	8.00	112.00
4.00	Full HD IP PTZ Camera With IR	Nos	Hikvision-DS-2DE7230IW-NAE	12.00	16.00	16.00	8.00	4.00	56.00
5.00	Radio Setup	Nos.	RADWIN-2000-D	18.00	26.00	34.00	6.00	4.00	88.00
6.00	Gigabit Network managed Switch:Type-1	Nos	Allied-ATIE300-12GP	20	19	20	10	6	75
7.00	Weather proof network cable	Mtr.	Systimax	3538.00	4767.00	5636.00	2459.00	1100.00	17500.00
8.00	Solar Panels	Nos	Insolation Energy Pvt. Ltd	288.00	384.00	384.00	192.00	72.00	1320.00
9.00	Solar Panels Mounting Structure with Installation and Elevated Control Room	Nos	10 G	24.00	32.00	32.00	16.00	6.00	110.00
10.00	Solar Charge controller and Inverter (3 KVA)	Nos	Statcon Energias	24.00	32.00	32.00	16.00	6.00	110.00
11.00	Batteries	Nos	Exide	192.00	256.00	256.00	128.00	48.00	880.00
12.01	Tower with elevated foundation and installation (30-40 Mtr)	Nos.	10 G	10.00	16.00	10.00	8.00	3.00	47.00
12.02	Tower with elevated foundation	Nos.	10G	2.00	0.00	6.00	0.00	1.00	9.00

S. No	Description of Work / Item(s)	Units	Approved Product	RTR	STR	MHTR	JNP	JLCR	Total
	dation and installation (45 Mtr)								
13.00	Power Cable	Mtr.	Finolex	2156.00	2657.00	3135.00	1554.00	535.00	10037.00
14.00	Copper Cable	Mtr.	Global	1381.00	2410.00	2192.00	1056.00	381.00	7420.00
15.00	Lighting Protection and Earthing	No.	Sheetal Wireless-Sai Communication	12.00	16.00	16.00	8.00	4.00	56.00
16.00	Aviation Light	Nos	10 G	12.00	16.00	16.00	8.00	4.00	56.00
17.00	Outdoor Box	Nos	10 G	12.00	16.00	16.00	9.00	4.00	57.00
B	Modular Containerized Data Centre								
18.01	Modular Container	Nos	Global	1.00	1.00	1.00	1.00	1.00	5.00
18.02	Rack Server	Nos	HPE-DL380 Gen9	2.00	2.00	2.00	2.00	2.00	10.00
18.03	External Storage	Nos	HPE-3PAR Storage Server 8200 Storage	1.00	1.00	1.00	1.00	1.00	5.00
18.04	Standard Managed Router	Nos	HPE-MSR1003-8	1.00	1.00	1.00	1.00	1.00	5.00
18.05	Gigabit Managed Network Switch: Type-2	Nos	DELL-X1052P	2.00	2.00	2.00	2.00	2.00	10.00
19.00	Control Room/Monitoring Room								
19.01	Client PC	Nos	DELL-3050MT	3.00	4.00	3.00	2.00	1.00	13.00
19.02	Display	Nos	LG-55SM5KC	3.00	4.00	4.00	2.00	1.00	14.00
19.03	Workstations Cabinet	Nos	Global	5.00	5.00	5.00	9.00	5.00	29.00
19.04	Chairs	Nos.	Global	5.00	5.00	5.00	9.00	5.00	29.00
20.00	Common Components								

S. No	Description of Work / Item(s)	Units	Approved Product	RTR	STR	MHTR	JNP	JLCR	Total
20.01	IP Indoor Camera with IR (Dome)	Nos	Hikvision-DS-2CD2722 FWD-IZSN	2.00	2.00	2.00	2.00	2.00	10.00
20.02	Weather proof network cable	Nos	Systimax	305.00	300.00	40.00	175.00	0.00	820.00
20.03b	Tower with elevated foundation and installation (45 Mtr)	Nos.	10 G	1.00	1.00	0.00	0.00	0.00	2.00
20.04	Power Cable	Mtr	Finolex	90.00	90.00	0.00	50.00	0.00	230.00
20.05	Lighting Protection and Earthing	Nos	ATS-100/ATS-TP	1.00	1.00				2.00
20.06	Aviation Light	Nos	Sheetal Wireless-Sai Communication	1.00	1.00				2.00
20.07	UPS	Nos	Sukam	2.00	2.00	2.00	2.00	2.00	10.00
20.08	DG Set with AMF	Nos	M&M-4905GM-C2	1.00	1.00	1.00	1.00	1.00	5.00
C	Miscellaneous Components								
21.01	Radio Over IP	Nos	Pulse-ROIP 800	3.00	5.00	0.00	1.00	1.00	10.00
21.02	Base Radio Station	Nos	Motorola-XIRM 8668i	4.00	5.00	5.00	1.00	1.00	16.00
21.03	Digital Handset with API Query Licenses	Nos	Motorola-XIRM 8668i	50.00	50.00	50.00	15.00	10.00	175.00
21.04	UAV (Drone) Setup	Nos	Astria A 400 Series	1.00	1.00	1.00	1.00	1.00	5.00
D	Software/ Application Components								
22.01	Software/Application Development & Integration (Including but not limited to required licences of VMS, CCC, Analytics etc.)	Lump sum	Web Application (HTML, Python and Node along with SAAS for Software Development and My SQL)						1.00

Note:

1. Bidders are advised to read carefully the products list mentioned above which are deployed in the five wildlife protected areas and commissioned at 56 onsite setups, 5 local commandcontrol room center and Rajasthan State Data Center.
2. The selected bidder has to provide Comprehensive O&M and warranty services of the existing components as per the scope defined in “Operations & Maintainance” clause under chapter “scope of work, deliverables and timelines of this RFP.

Annexure-21: Software Bill of material (SBOM) Declaration: (To be submitted by the Bidder on Company Letterhead)

Date: _____

RFP No.: _____

Project Name: _____

Declaration on Software Bill of Materials (SBOM)

I/We, the undersigned, hereby declare that:

1. All software, firmware, libraries, plugins, and third-party/open-source components used in the proposed solution under this RFP are legally licensed and authorized for use.

2. A complete and accurate Software Bill of Materials (SBOM) will be provided, listing:

Component Name

Version Number

Source / Supplier

License Type

Dependency Information (if applicable)

3. The SBOM will be submitted in SPDX / CycloneDX (as per requirement), at the following stages:

Initial deployment

Every major update/patch

As and when requested by the client or auditing authority

4. None of the software components used in the solution are from any banned/restricted vendors or countries as per Government of India policy.

5. We agree that non-disclosure or misrepresentation of software components may lead to penalties, blacklisting, or cancellation of the contract.

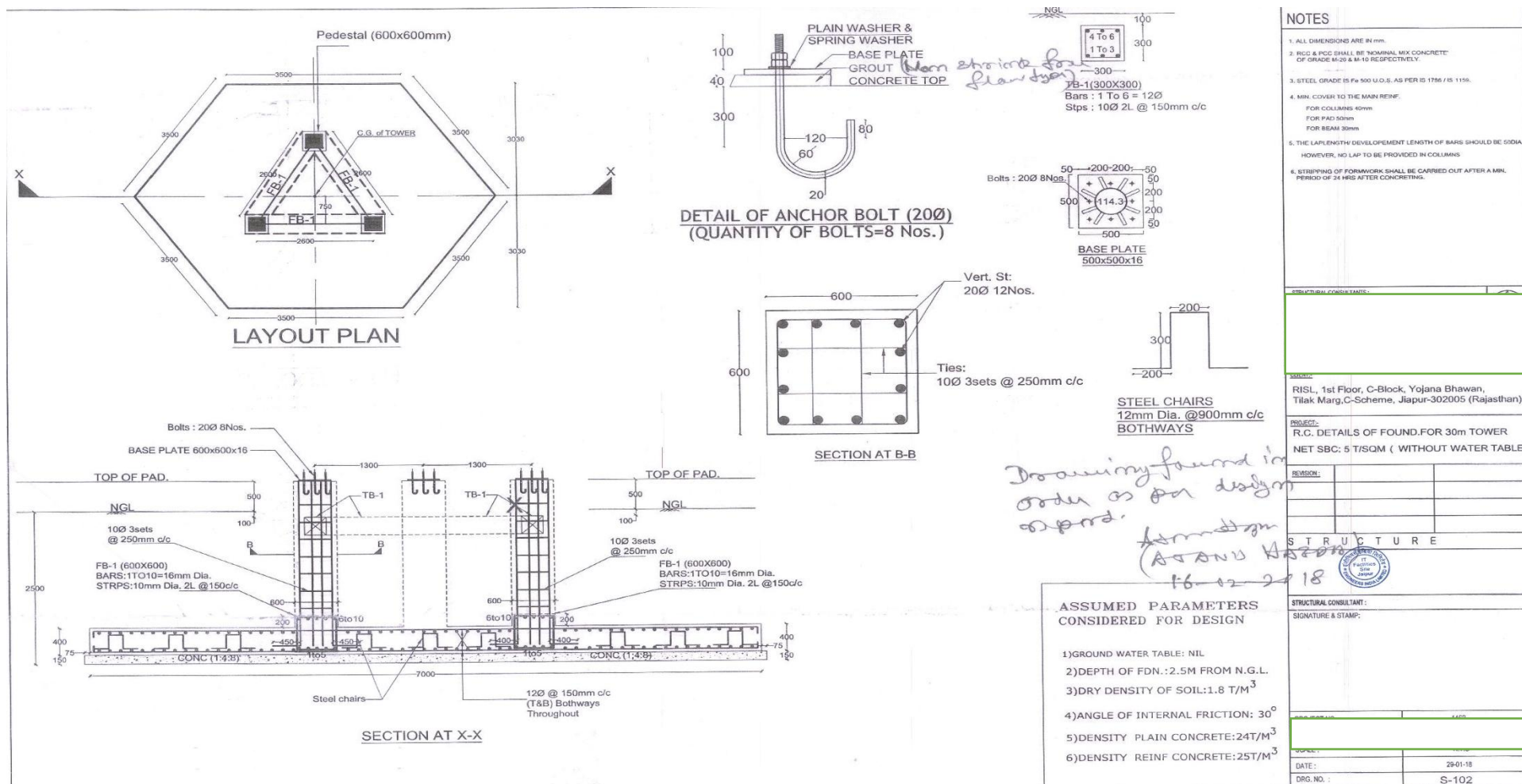
Authorized Signatory

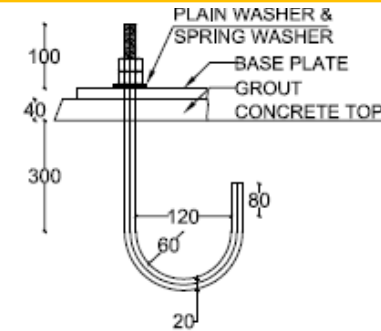
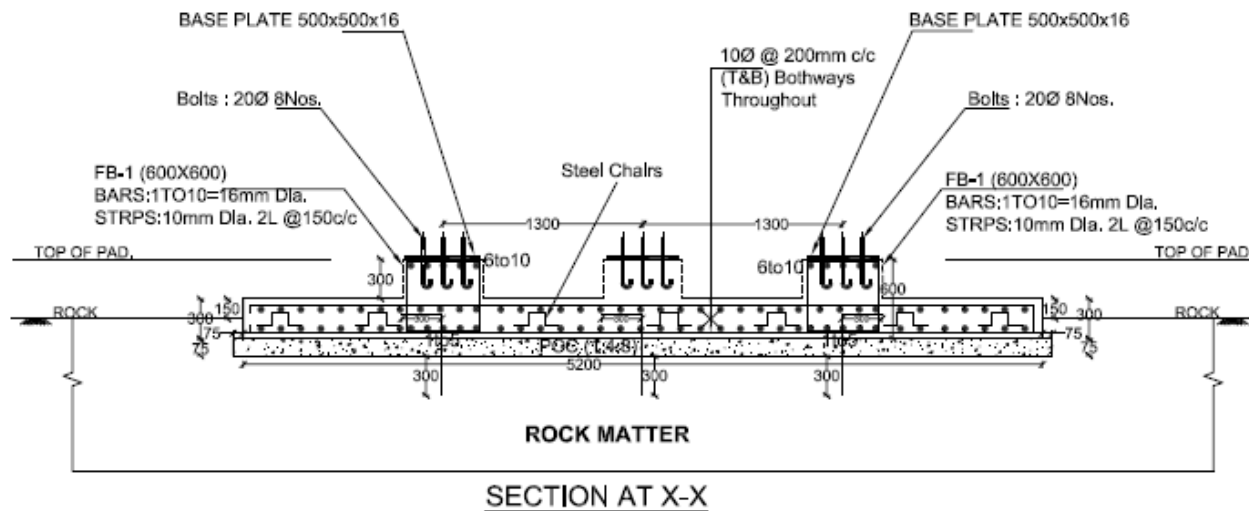
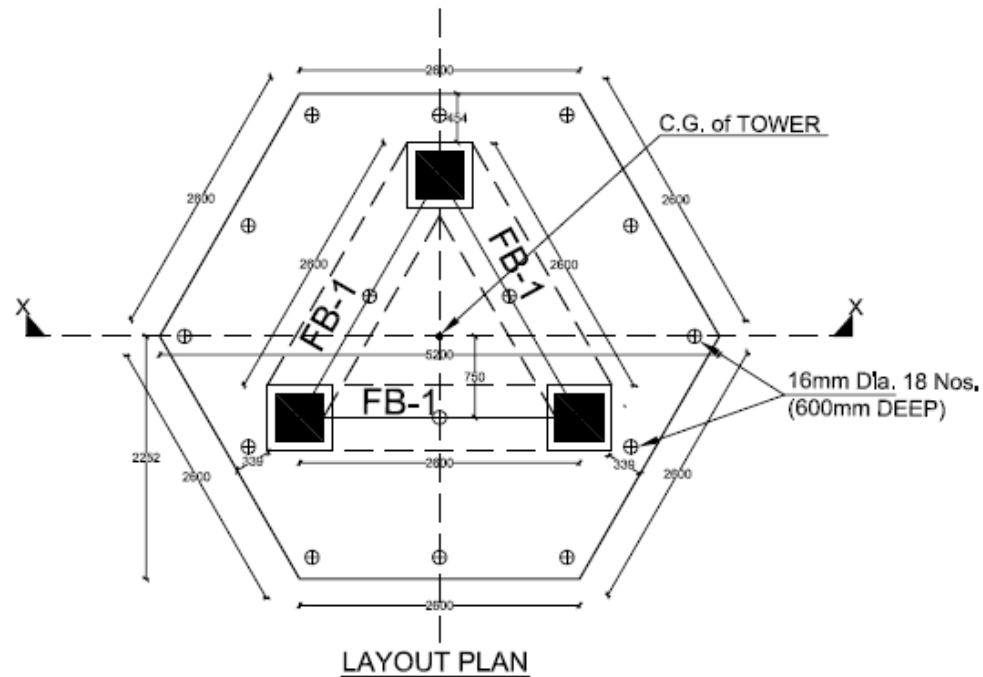
Name: _____

Designation: _____

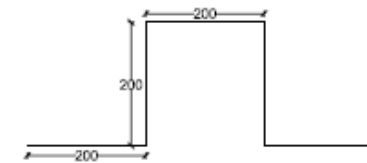
ANNEXURE-22: MINIMUM REQUIRED STANDARDS AND INDECATIVE DESIGN/ SIZING OF TOWER AND FOUNDATION

i. 30 Meter Tower

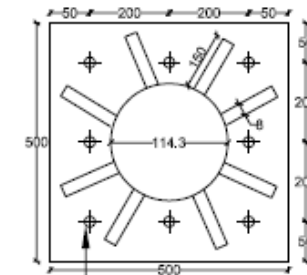




DETAIL OF ANCHOR BOLT (20Ø)
(QUANTITY OF BOLTS=8 Nos.)



STEEL CHAIRS
12mm Dia. @900mm c/c
BOTHWAYS



BASE PLATE 500x500x12
Bolts : 20Ø 8Nos.

NOTES

1. ALL DIMENSIONS ARE IN MM.
2. RCC & PCC SHALL BE NOMINAL MIX CONCRETE OF GRADE M40 & M10 RESPECTIVELY.
3. STEEL GRADE IS Fe 500 UQC AS PER IS 1786 / IS 1155.
4. MIN. COVER TO THE MAIN REINFORCING BARS SHALL BE 40mm FOR COLUMN, 60mm FOR PAD, 80mm FOR BEAM, 30mm FOR SLAB.
5. THE LAP LENGTH (DEVELOPMENT LENGTH) OF BARS SHOULD BE 48D, HOWEVER, NO LAP TO BE PROVIDED IN COLUMNS.
6. STRIPPING OF FORMWORK SHALL BE CARRIED OUT AFTER A MIN. PERIOD OF 24 HRS AFTER CONCRETING.

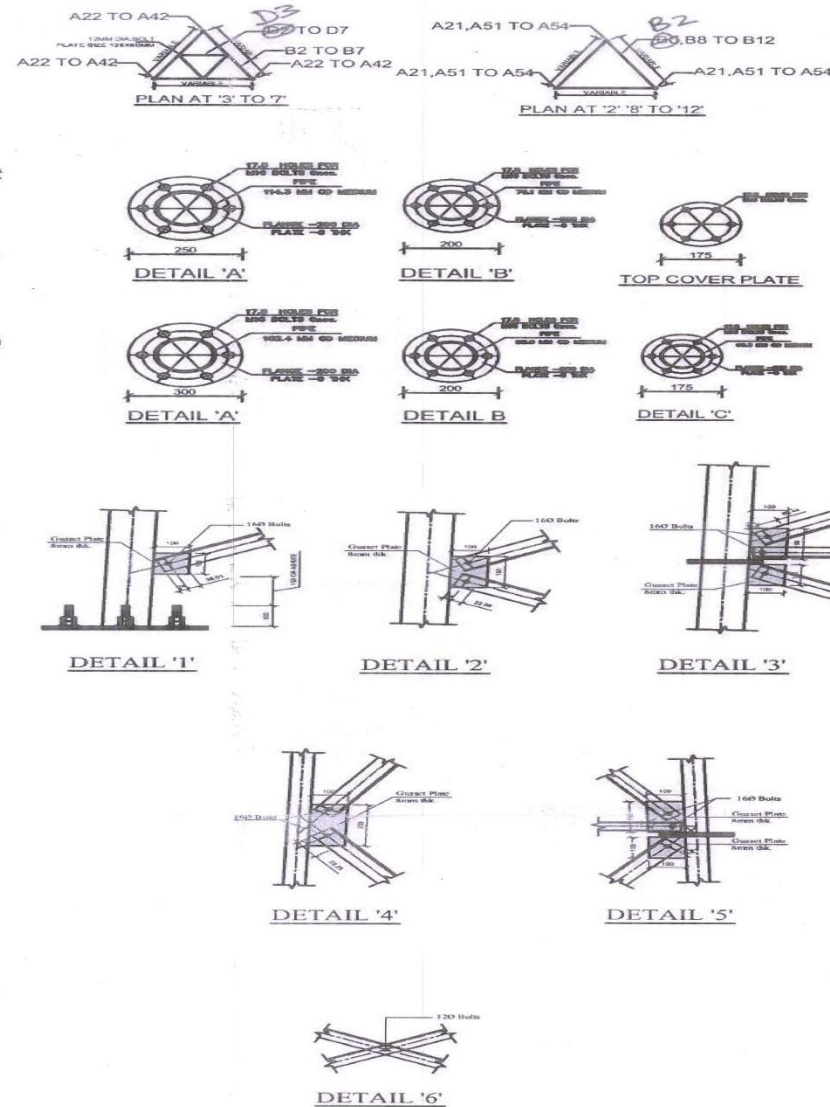
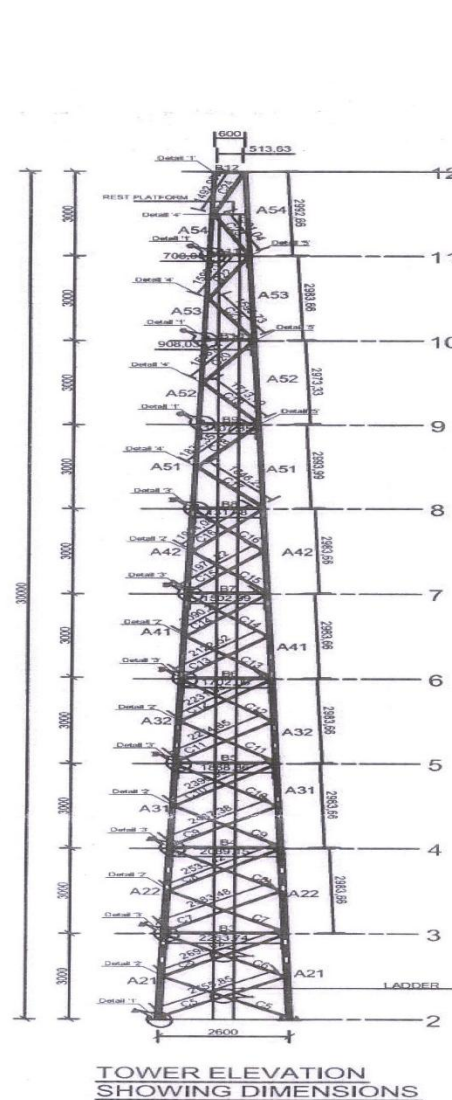
REMARKS:
R/C DETAILS OF FOUNDATION ON ROCK FOR 30-m TOWER, NET SBC:20T/SQM (WITHOUT WATER TABLE)

NO.	REVISION

STRUCTURE

STRUCTURAL CONSULTANT:
SIGNATURE & STAMP:

SCALE:	1/25
DATE:	30/09/23
DRG. NO.:	S-134



STEEL NOTES

1. ALL DIMENSIONS ARE IN MM.
2. DIMENSIONS ARE TO BE READ & NOT TO BE SCALED OFF.
3. CODES & SPECIFICATIONS :
i) STRUCTURE STEEL SHALL CONFORM TO IS. 2062.
ii) WELDING SHALL CONFORM TO IS. 816.
iii) FABRICATION & ERECTION SHALL IN ACCORDANCE TO IS. 800
4. TOWER IS DESIGNED AS PER IS: 875-1987 PART-I, II, III, IS:1893-2002 & IS:802(PART-VSEC-1)-1995.
5. ALL FABRICATED MEMBERS ARE TO BE HOT DIP GALVANIZED OR PRE GALVANIZED AS PER IS: 4759-1968.
6. ALL NUT & BOLTS ARE TO BE AS PER IS:1367-1987.
7. TOLERANCE FOR FABRICATION OF STEEL STRUCTURE IS:7215.
8. ALL TUBES SHALL CONFIRM TO IS:1161:1988.
9. ALL TUBES SHALL CONFIRM TO GRADE YS T 240 WITH YIELD STRESS OF 240MPA AS PER IS:806:1968
10. ALL BRANCHING SHALL BE MILD STEEL WITH YIELD STRESS OF 250MPA.

NOTE:- ACTUAL LENGTH OF MEMBERS, IF FOUND NECESSARY CAN BE CHANGED AS PER SITE CONDITIONS

SIGNATURE & STAMP:

DRAWING TITLE:
CONNECTION DETAILS
(30M TOWER)
DRAWING NO:
S-108

SCALE:
N.T.S
DATE:
19-01-18

MATERIAL TABLE								
S.NO.	MEMBER DESIGNATION	SIZE	Member/Cutting Length(mm)	Nos.	Thickness (mm)	WEIGHT (Kg/m)	Weld size (mm)	Remarks
1	A21	114.3mm OD(M)	2883	3	4.50	12.1	6	
2	A22	114.3mm OD(M)	2883	3	4.50	12.1	6	
3	A31	88.9mm OD(M)	2883	3	4.05	8.48	6	
4	A32	88.9mm OD(M)	2883	3	4.05	8.48	6	
5	A41	76.1mm OD(M)	2883	3	3.65	6.53	6	
6	A42	76.1mm OD(M)	2883	3	3.65	6.53	6	
7	A51	60.3mm OD(M)	2893	3	3.65	5.10	6	
8	A52	60.3mm OD(M)	2873	3	3.65	5.10	6	
9	A53	60.3mm OD(M)	2883	3	3.65	5.10	6	
10	A54	60.3mm OD(M)	2892	3	3.65	5.10	6	
11	B1	ISA 50X50X4	2651	3	4.00	3.00	6	
12	D1	ISA 35X35X4	1300	3	4.00	2.10	6	
13	B2	ISA 50X50X4	2463	3	4.00	3.00	6	
14	D2	ISA 35X35X4	1200	3	4.00	2.10	6	
15	B3	ISA 50X50X4	2263	3	4.00	3.00	6	
16	D3	ISA 35X35X4	1100	3	4.00	2.10	6	
17	B4	ISA 50X50X4	2089	3	4.00	3.00	6	
18	D4	ISA 35X35X4	1000	3	4.00	2.10	6	
19	B5	ISA 50X50X4	1888	3	4.00	3.00	6	
20	D5	ISA 35X35X4	900	3	4.00	2.10	6	
21	B6	ISA 35X35X4	1702	3	4.00	2.10	6	
22	D6	ISA 35X35X4	800	3	4.00	2.10	6	
23	B7	ISA 35X35X4	1502	3	4.00	2.10	6	
24	D7	ISA 35X35X4	700	3	4.00	2.10	6	
25	B8	ISA 40X40X4	1317	3	4.00	2.40	6	
26	B9	ISA 40X40X4	1107	3	4.00	2.40	6	
27	B10	ISA 40X40X4	908	3	4.00	2.40	6	
28	B11	ISA 40X40X4	708	3	4.00	2.40	6	
29	B12	ISA 40X40X4	513	3	4.00	2.40	6	

MATERIAL TABLE								
S.NO.	MEMBER DESIGNATION	SIZE	Member/Cutting Length(mm)	Nos.	Thickness (mm)	WEIGHT (Kg/m)	Weld size (mm)	Remarks
30	C5	ISA 50X50X4	2655	6	4.00	3.00	6	
31	C8	ISA 50X50X4	2598	6	4.00	3.00	6	
32	C7	ISA 50X50X4	2483	6	4.00	3.00	6	
33	C8	ISA 50X50X4	2433	6	4.00	3.00	6	
34	C9	ISA 45X45X4	2337	6	4.00	2.70	6	
35	C10	ISA 45X45X4	2290	6	4.00	2.70	6	
36	C11	ISA 45X45X4	2174	6	4.00	2.70	6	
37	C12	ISA 45X45X4	2131	6	4.00	2.70	6	
38	C13	ISA 40X40X4	2022	6	4.00	2.40	6	
39	C14	ISA 40X40X4	1990	6	4.00	2.40	6	
40	C15	ISA 40X40X4	1878	6	4.00	2.40	6	
41	C16	ISA 40X40X4	1854	6	4.00	2.40	6	
42	C17	ISA 85X65X5	1746	3	5.00	4.90	6	
43	C18	ISA 85X65X5	1732	3	5.00	4.90	6	
44	C19	ISA 50X50X4	1613	3	4.00	3.00	6	
45	C20	ISA 50X50X4	1593	3	4.00	3.00	6	
46	C21	ISA 45X45X4	1485	3	4.00	2.70	6	
47	C22	ISA 45X45X4	1489	3	4.00	2.70	6	
48	C23	ISA 45X45X4	1401	3	4.00	2.70	6	
49	C24	ISA 45X45X4	1392	3	4.00	2.70	6	

STEEL NOTES

1. ALL DIMENSIONS ARE IN MM.
2. DIMENSIONS ARE TO BE READ & NOT TO BE SCALED OFF.
3. CODES & SPECIFICATIONS :
 - i) STRUCTURE STEEL SHALL CONFORM TO IS. 2062.
 - ii) WELDING SHALL CONFORM TO IS. 816.
 - iii) FABRICATION & ERRECTION SHALL IN ACCORDANCE TO IS. 800

SIGNATURE & STAMP:

Member size found in order
was per submitted S.O. 2018
& design report.

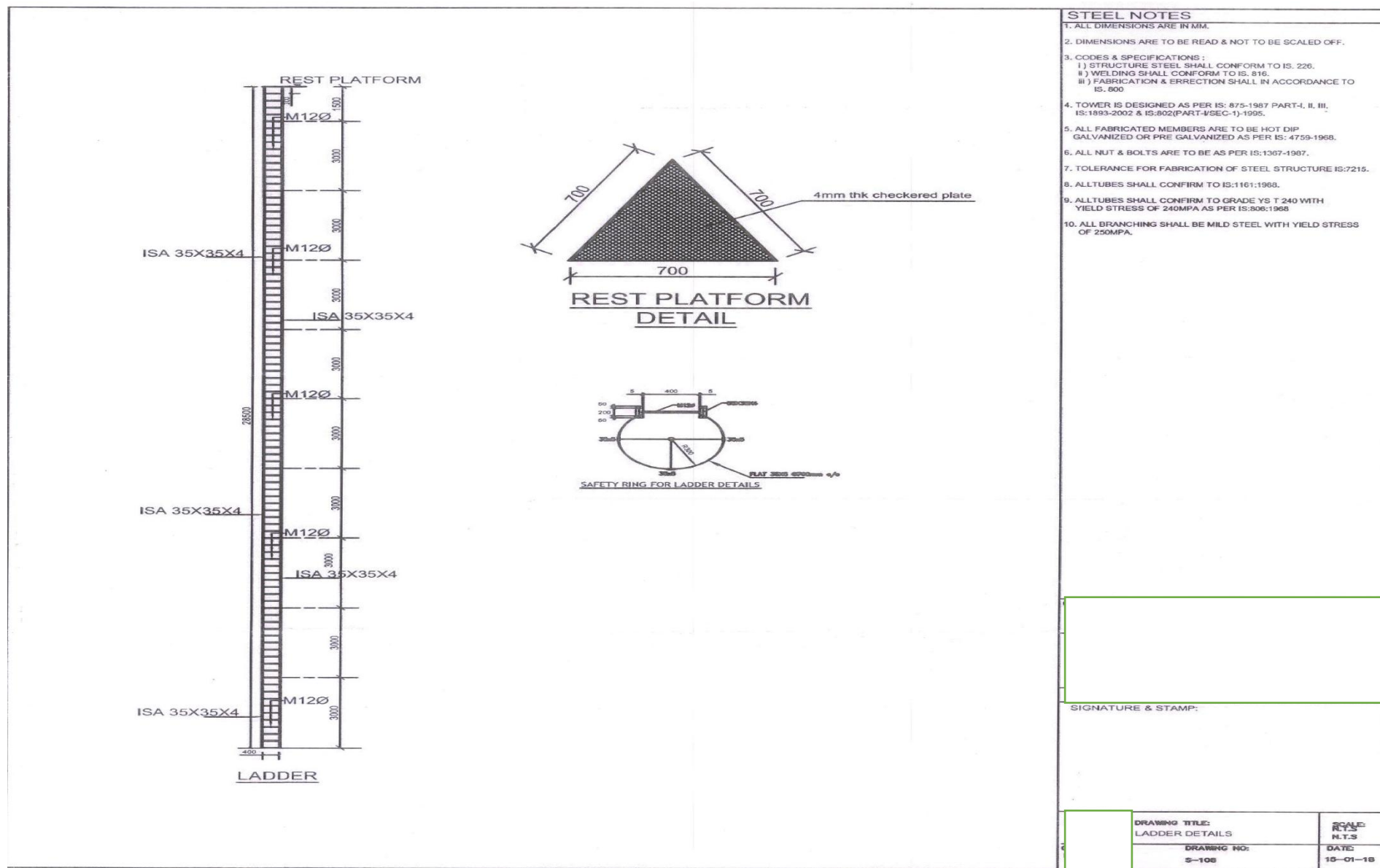
Amrinder
Kumar
18-02-2018

DRAWING TITLE:
MEMBER DETAIL TABLE
30M TOWER

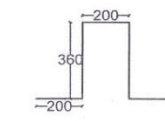
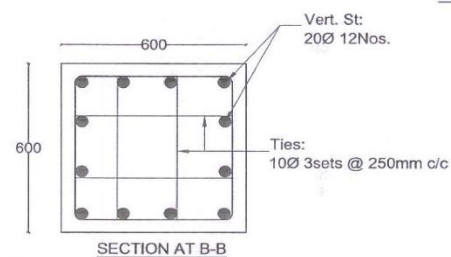
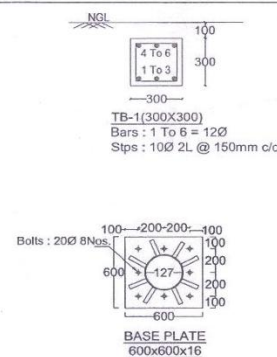
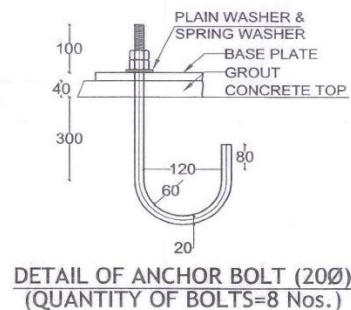
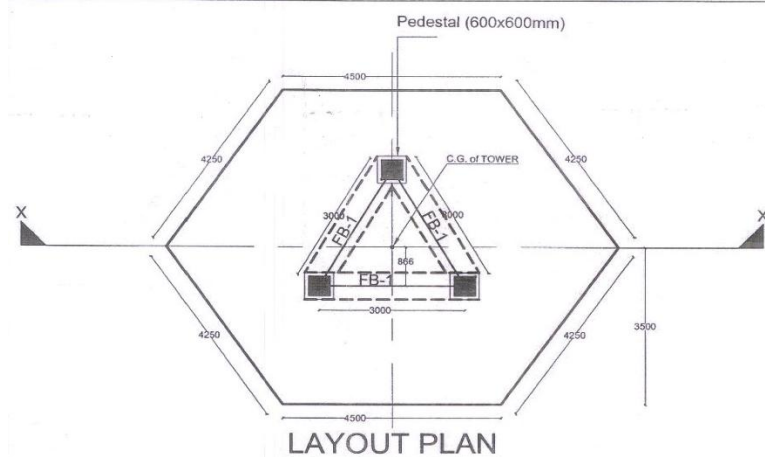
SCALE:
N.T.S

DRAWING NO:
S-107

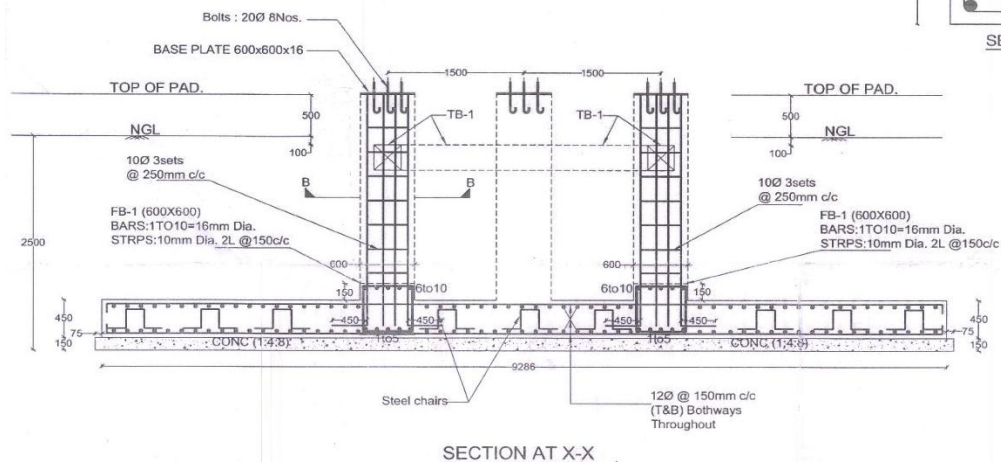
DATE:
15-01-18



ii. 36 Meter Tower



STEEL CHAIRS
12mm Dia. @900mm c/c
BOTHWAYS



foundations drawn
found in order as per
welding reports.
Arm 1700
(A) 1700

ASSUMED PARAMETERS CONSIDERED FOR DESIGN

- 1) GROUND WATER TABLE: NIL
- 2) DEPTH OF FDN.: 2.5M FROM N.G.L.
- 3) DRY DENSITY OF SOIL: 1.8 T/M^3
- 4) ANGLE OF INTERNAL FRICTION: 30°
- 5) DENSITY PLAIN CONCRETE: 24 T/M^3
- 6) DENSITY REINF CONCRETE: 25 T/M^3

NOTES

1. ALL DIMENSIONS ARE IN mm.
2. RCC & PCC SHALL BE NOMINAL MIX CONCRETE OF GRADE M-20 & M-10 RESPECTIVELY.
3. STEEL GRADE IS Fe 500 U.O.S. AS PER IS 1786 / IS 1159.
4. MIN. COVER TO THE MAIN REINF.
FOR COLUMNS 40mm
FOR PAD 50mm
FOR BEAM 30mm
5. THE LAP LENGTH DEVELOPMENT LENGTH OF BARS SHOULD BE 50 DIA.
HOWEVER, NO LAP TO BE PROVIDED IN COLUMNS
6. STRIPPING OF FORMWORK SHALL BE CARRIED OUT AFTER A MIN. PERIOD OF 24 HRS AFTER CASTING.

PROJECT:-
R.C. DETAILS OF FOUND.FOR 36m TOWER
NET SBC: 5 T/SQM (WITHOUT WATER TABLE

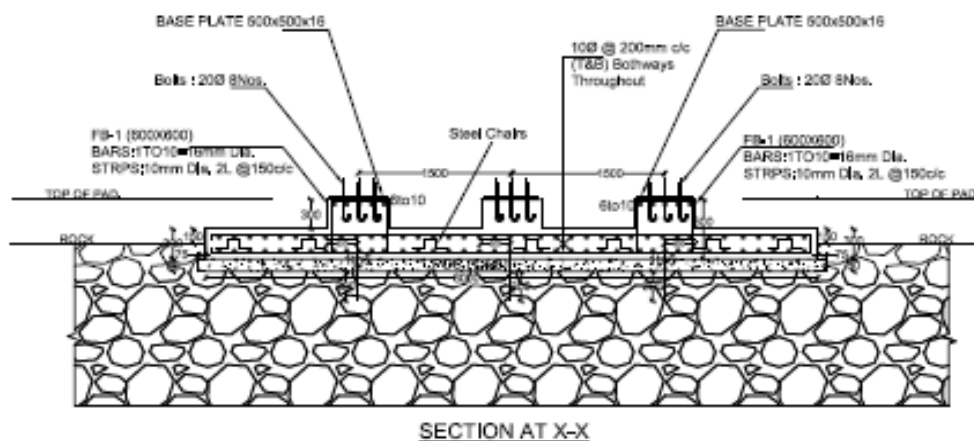
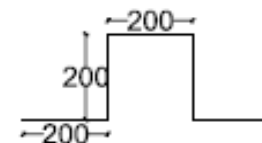
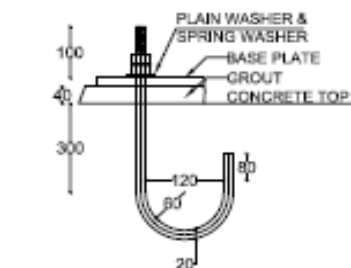
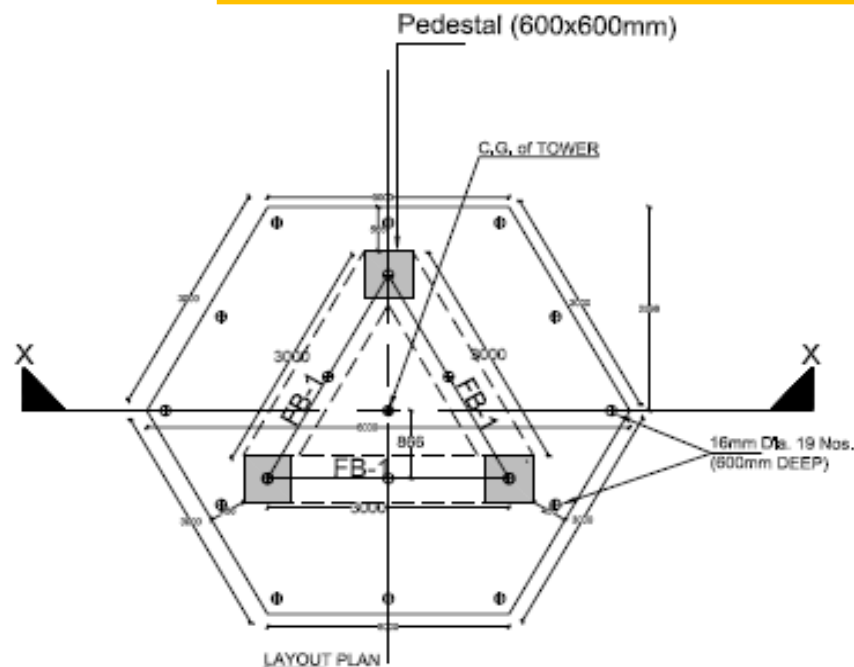
S T R U C T U R E

STRUCTURAL CONSULTANT :
SIGNATURE & STAMP:

SCALE :	N.T.S
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DATE :	29-01-18
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DRG. NO. :	S-101
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NOTES

1. ALL DIMENSIONS ARE IN mm.
2. FGD & PGD SHALL BE NON-SATURATED CONCRETE OF GRADE M30 & M40 RESPECTIVELY.
3. STEEL GRADE IS TO BE SUPPLIED FOR 1500 N/mm².
4. BARS COVERED TO THE MAIN BARS FOR COLUMN ARM FOR PAD DOWN FOR BARS 200.
5. THE LAP LENGTH DEVELOPMENT LENGTH OF BARS SHOULD BE AS PER, HOWEVER, SO LAPS TO BE PROVIDED IN COLUMN.
6. STRIPS OF FORMWORK SHALL BE REMOVED OUT AFTER A MIN. PERIOD OF 24 HRS AFTER CONCRETING.

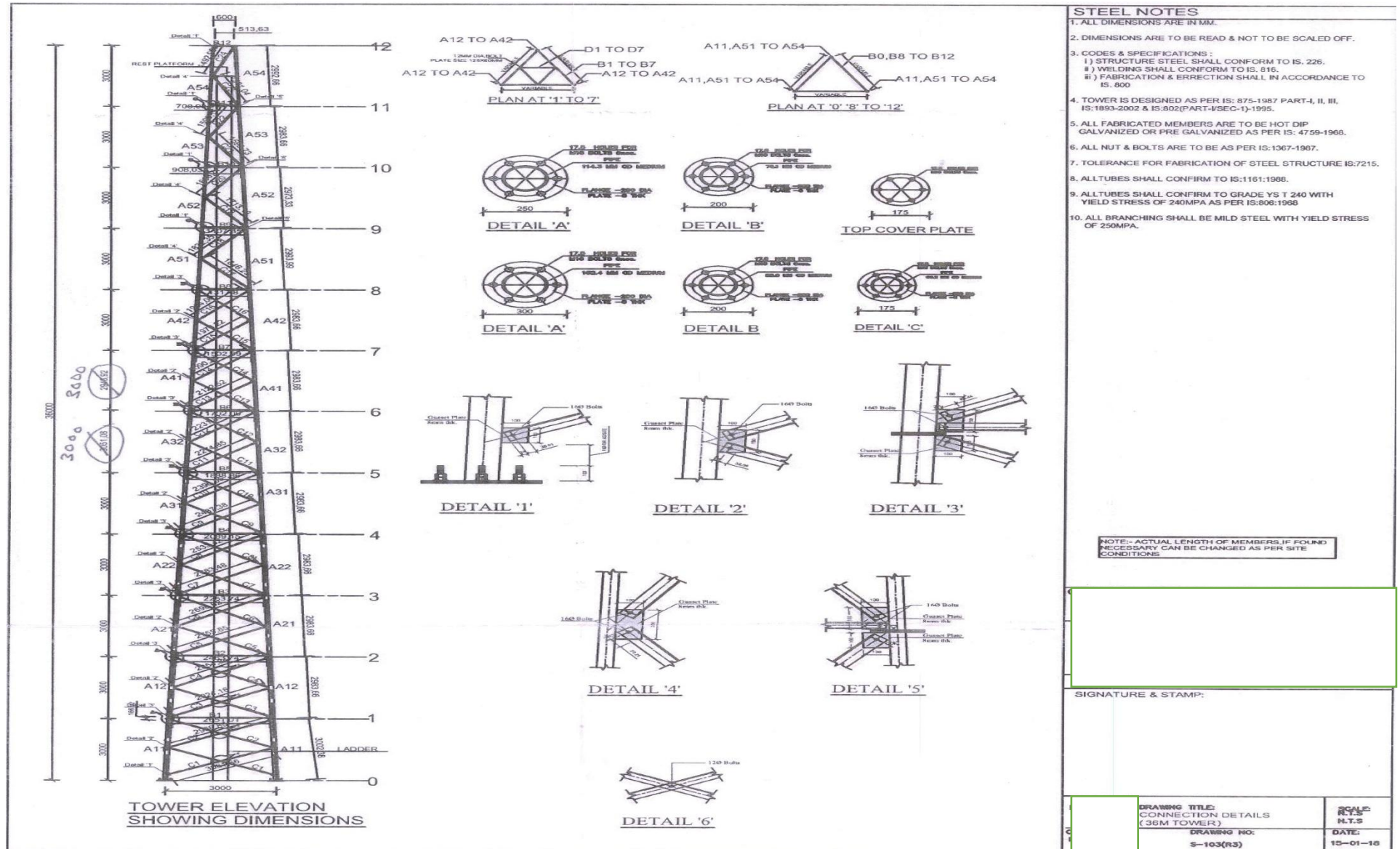
REMARKS:
R/C DETAILS OF FOUNDATION ON ROCK FOR 35m TOWER, NET 88C20T18QM (WITHOUT WATER TABLE)

DATE		

STRUCTURE

DESIGNER'S SIGNATURE:

SCALE	N/P
DATE	04/03/18
DRG. NO.	04/03/18



MATERIAL TABLE						
S.NO.	MEMBER DESIGNATION	SIZE	Member/Cutting Length (mm)	Nos.	Thickness (mm)	WEIGHT (Kg/m)
1	A11	127.0mm OD(M)	2902	3	4.85	14.6
2	A12	127.0mm OD(M)	2883	3	4.85	14.6
3	A21	114.3mm OD(M)	2883	3	4.50	12.1
4	A22	114.3mm OD(M)	2883	3	4.50	12.1
5	A31	88.9mm OD(M)	2883	3	4.05	8.48
6	A32	88.9mm OD(M)	2883	3	4.05	8.48
7	A41	76.1mm OD(M)	2883	3	3.65	6.53
8	A42	76.1mm OD(M)	2883	3	3.65	6.53
9	A51	60.3mm OD(M)	2893	3	3.65	5.10
10	A52	60.3mm OD(M)	2873	3	3.65	5.10
11	A53	60.3mm OD(M)	2883	3	3.65	5.10
12	A54	60.3mm OD(M)	2892	3	3.65	5.10
13	B1	ISA 50X50X4	2551	3	4.00	3.00
14	D1	ISA 35X35X4	1300	3	4.00	2.10
15	B2	ISA 50X50X4	2463	3	4.00	3.00
16	D2	ISA 35X35X4	1200	3	4.00	2.10
17	B3	ISA 50X50X4	2263	3	4.00	3.00
18	D3	ISA 35X35X4	1100	3	4.00	2.10
19	B4	ISA 50X50X4	2089	3	4.00	3.00
20	D4	ISA 35X35X4	1000	3	4.00	2.10
21	B5	ISA 50X50X4	1888	3	4.00	3.00
22	D5	ISA 35X35X4	900	3	4.00	2.10
23	B6	ISA 35X35X4	1702	3	4.00	2.10
24	D6	ISA 35X35X4	800	3	4.00	2.10
25	B7	ISA 35X35X4	1502	3	4.00	2.10
26	D7	ISA 35X35X4	700	3	4.00	2.10
27	B8	ISA 40X40X4	1317	3	4.00	2.40
28	B9	ISA 40X40X4	1107	3	4.00	2.40
29	B10	ISA 40X40X4	906	3	4.00	2.40
30	B11	ISA 40X40X4	706	3	4.00	2.40
30	B12	ISA 40X40X4	513	3	4.00	2.40

MATERIAL TABLE						
S.NO.	MEMBER DESIGNATION	SIZE	Member/Cutting Length (mm)	Nos.	Thickness (mm)	WEIGHT (Kg/m)
31	C1	ISA 65X65X8	2961	6	6.00	5.80
32	C2	ISA 65X65X8	2886	6	6.00	5.80
33	C3	ISA 65X65X8	2824	6	6.00	5.80
34	C4	ISA 65X65X8	2754	6	6.00	5.80
35	C5	ISA 50X50X4	2655	6	4.00	3.00
36	C6	ISA 50X50X4	2598	6	4.00	3.00
37	C7	ISA 50X50X4	2483	6	4.00	3.00
38	C8	ISA 50X50X4	2433	6	4.00	3.00
39	C9	ISA 45X45X4	2337	6	4.00	2.70
40	C10	ISA 45X45X4	2290	6	4.00	2.70
41	C11	ISA 45X45X4	2174	6	4.00	2.70
42	C12	ISA 45X45X4	2131	6	4.00	2.70
43	C13	ISA 40X40X4	2022	6	4.00	2.40
44	C14	ISA 40X40X4	1990	6	4.00	2.40
45	C15	ISA 40X40X4	1878	6	4.00	2.40
46	C16	ISA 40X40X4	1854	6	4.00	2.40
47	C17	ISA 65X65X8	1748	3	5.00	4.90
48	C18	ISA 65X65X8	1732	3	5.00	4.90
49	C19	ISA 50X50X4	1613	3	4.00	3.00
50	C20	ISA 50X50X4	1593	3	4.00	3.00
51	C21	ISA 45X45X4	1495	3	4.00	2.70
52	C22	ISA 45X45X4	1499	3	4.00	2.70
53	C23	ISA 45X45X4	1401	3	4.00	2.70
54	C24	ISA 45X45X4	1362	3	4.00	2.70

Member size found in order was per design calculation & STAAD file.

Approved By
RIL Manager

STEEL NOTES

1. ALL DIMENSIONS ARE IN MM.
2. DIMENSIONS ARE TO BE READ & NOT TO BE SCALED OFF.
3. CODES & SPECIFICATIONS :
 - i) STRUCTURE STEEL SHALL CONFORM TO IS. 226.
 - ii) WELDING SHALL CONFORM TO IS. 816.
 - iii) FABRICATION & ERRECTION SHALL IN ACCORDANCE TO IS. 800

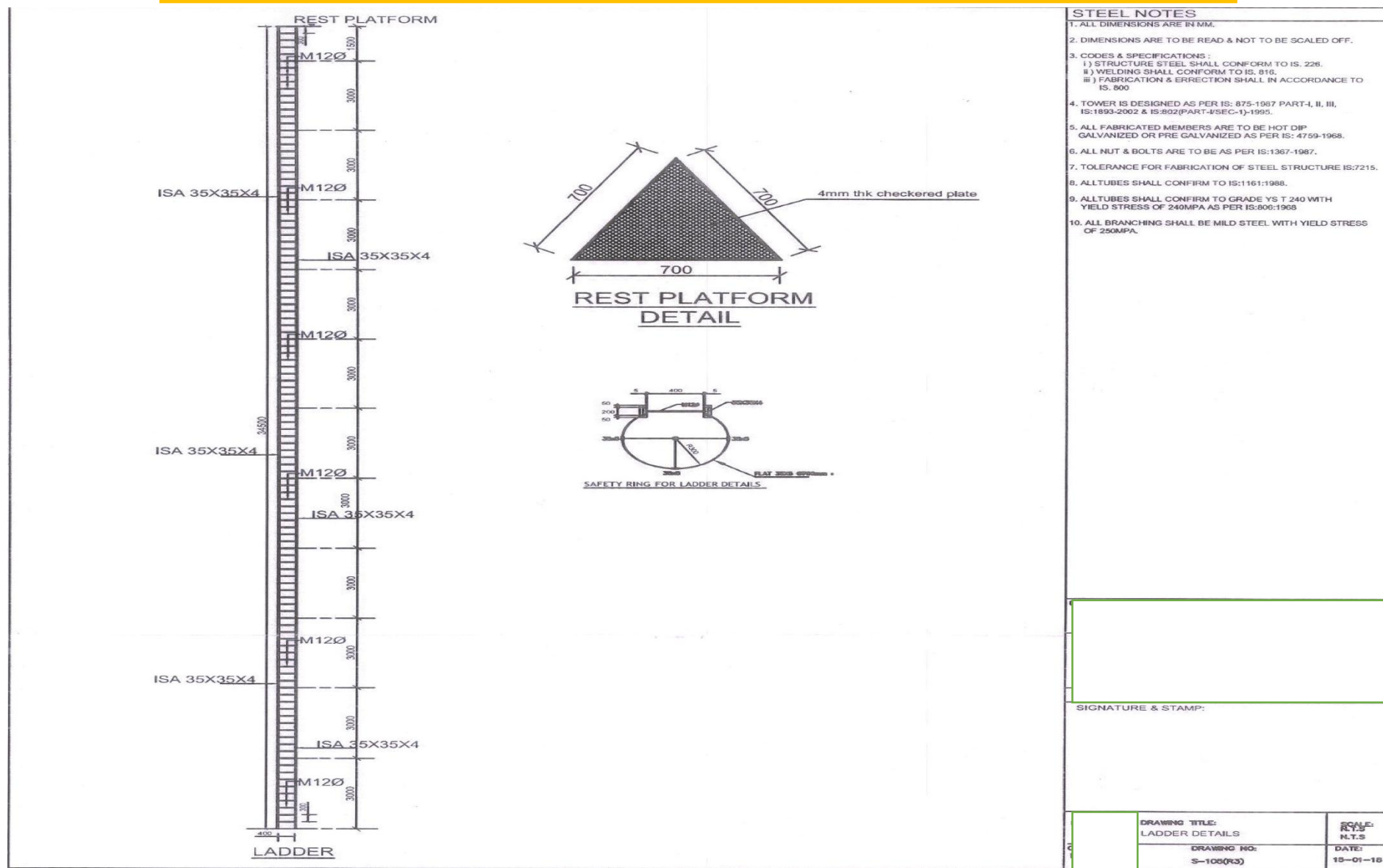
SIGNATURE & STAMP:

DRAWING TITLE:
EMBER DETAIL TABLE
(6M TOWER)

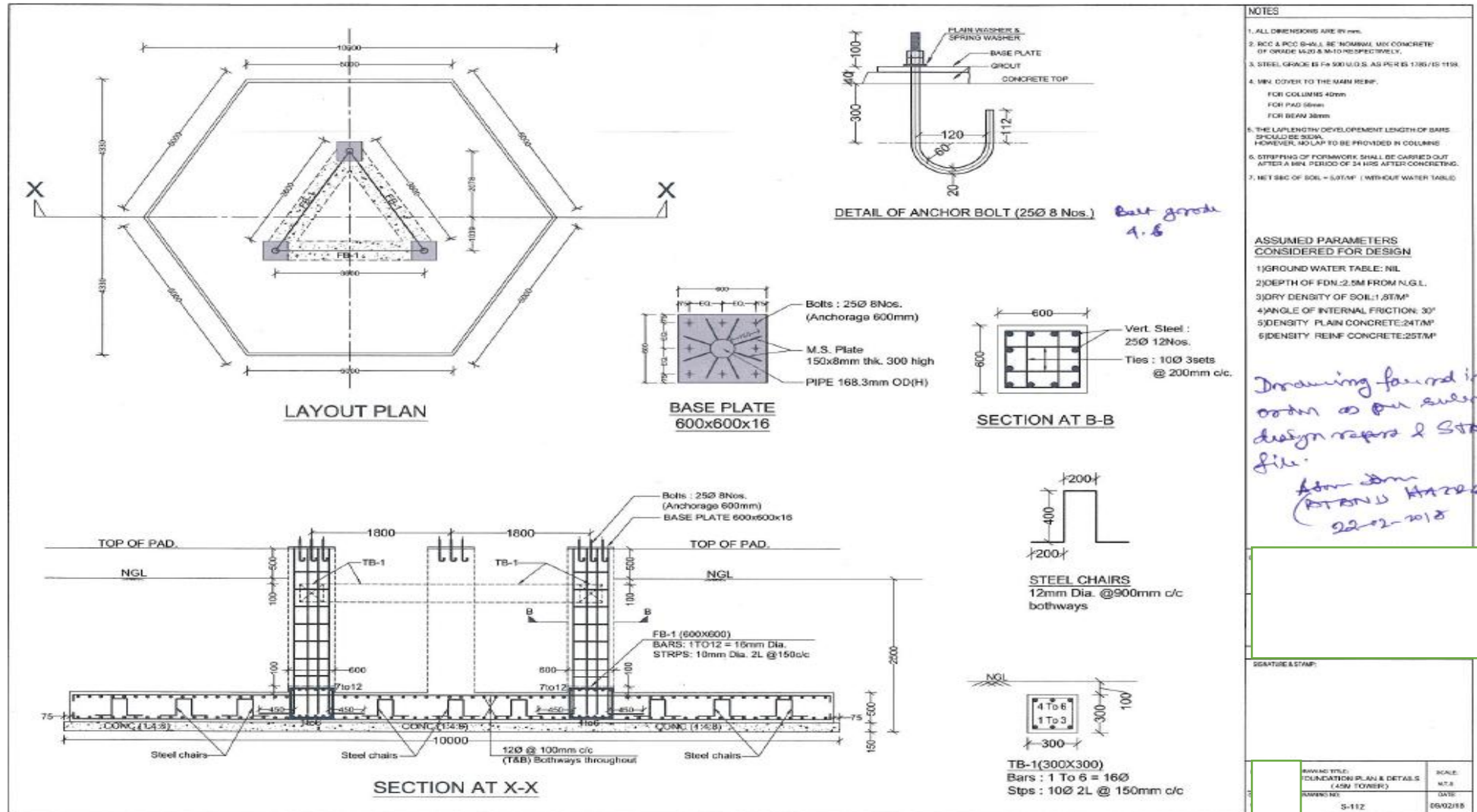
SCALE:
N.T.S

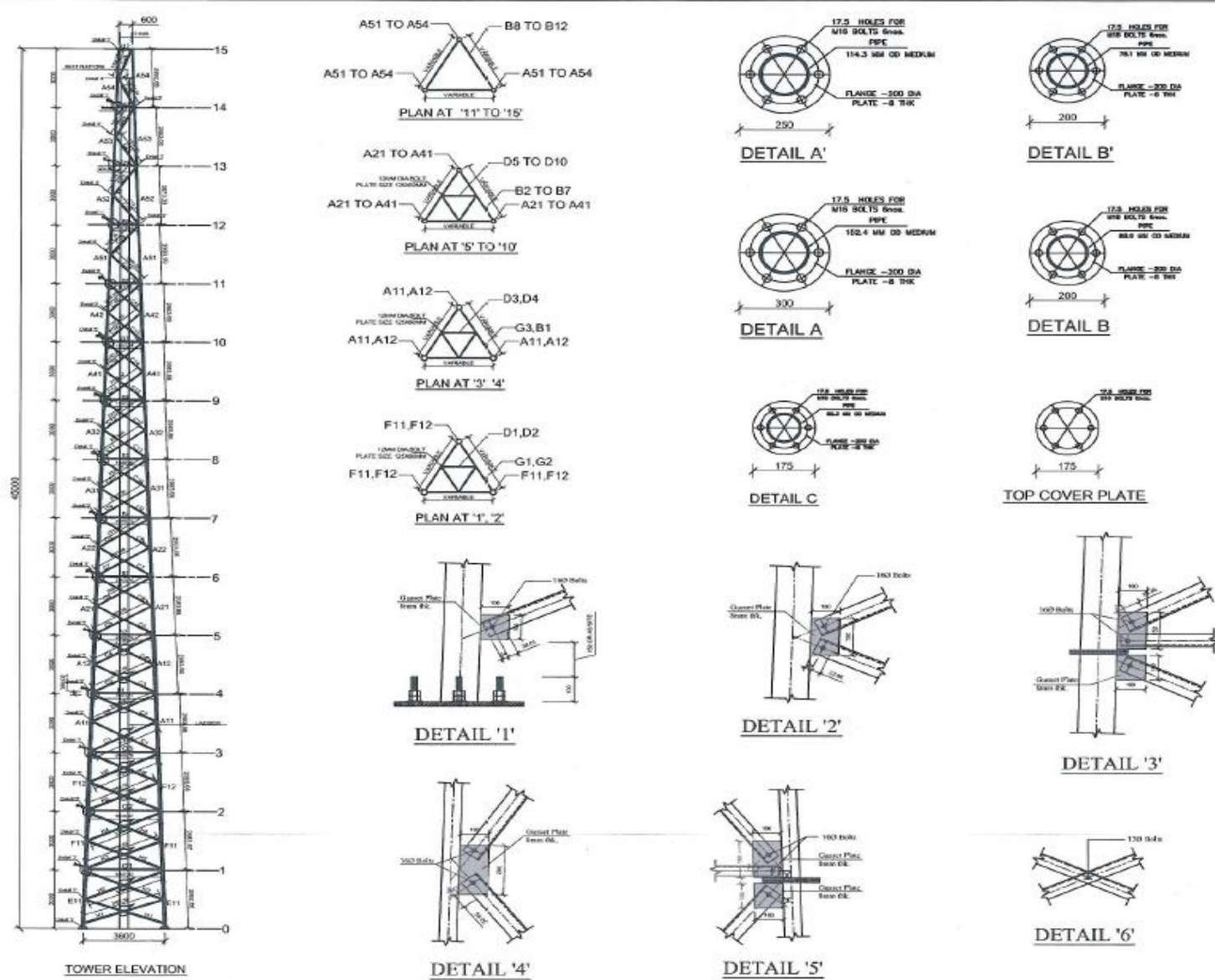
DRAWING NO:
S-104(R3)

DATE:
15-01-18



iii. 45 Meter Tower





STEEL NOTES

- 1. ALL DIMENSIONS ARE IN MM.
- 2. DIMENSIONS ARE TO BE READ & NOT TO BE SCALED OFF.
- 3. CODES & SPECIFICATIONS :
 - 1) STRUCTURE STEEL SHALL CONFORM TO IS 226.
 - 2) WELDING SHALL CONFORM TO IS 816.
 - 3) FABRICATION & ERECTION SHALL IN ACCORDANCE TO IS 300.
- 4. TOWER IS DESIGNED AS PER IS 816-1987 PART 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
- 5. ALL FABRICATED MEMBERS ARE TO BE HOT DIP GALVANIZED OR PRE GALVANIZED AS PER IS 4759-1985.
- 6. ALL NUT & BOLTS ARE TO BE AS PER IS 1367-1967.
- 7. TOLERANCE FOR FABRICATION OF STEEL STRUCTURE IS 72 IS.
- 8. ALL TUBES SHALL CONFORM TO IS 1151-1988.
- 9. ALL TUBES SHALL CONFORM TO GRADE Y.S.T. 30 WITH YIELD STRESS OF 345MPA AS PER IS 965-1960.
- 10. ALL BRANCHING SHALL BE MILD STEEL WITH YIELD STRESS OF 235MPA.

Drawing found in order as per 2nd STAAD file & design report.

Amrinder Arora U.H.S. 22-12-2018

NOTE:- ACTUAL LENGTH OF MEMBERS IF FOUND NECESSARY CAN BE CHANGED AS PER SITE CONDITIONS.

SIGNATURE & STAMP:

C	DRAWING TITLE: TOWER DETAILS (45M TOWER)	SCALE: N.T.S.
	DRAWING NO. S-109	DATE: 06/02/18

MATERIAL TABLE (VERTICAL LEGS)							
S.NO.	MEMBER DESIGNATION	SIZE	Member/Cutting Length (mm)	Nos.	Thickness (mm)	WEIGHT (Kg/m)	Weld size (mm)
1	A11	152.4mm OD(H)	2902	3	5.40	19.5	6
2	A12	127.0mm OD(M)	2983	3	4.85	14.8	6
3	A21	114.3mm OD(M)	2983	3	4.50	12.1	6
4	A22	114.3mm OD(M)	2983	3	4.50	12.1	6
5	A31	101.6mm OD(M)	2983	3	4.05	9.75	6
6	A32	88.9mm OD(M)	2983	3	4.05	8.48	6
7	A41	76.1mm OD(M)	2983	3	3.65	6.53	6
8	A42	76.1mm OD(M)	2983	3	3.65	6.53	6
9	A51	60.3mm OD(M)	2983	3	3.65	5.10	6
10	A52	60.3mm OD(M)	2973	3	3.65	5.10	6
11	A53	60.3mm OD(M)	2983	3	3.65	5.10	6
12	A54	60.3mm OD(M)	2992	3	3.65	5.10	6
13	E11	168.3mm OD(H)	2993	3	5.40	21.7	6
14	F11	152.4mm OD(H)	2984	3	5.40	19.5	6
15	F12	152.4mm OD(H)	2984	3	5.40	19.5	6

MATERIAL TABLE (HORIZONTAL / PLAN MEMBERS)							
S.NO.	MEMBER DESIGNATION	SIZE	Member/Cutting Length (mm)	Nos.	Thickness (mm)	WEIGHT (Kg/m)	Weld size (mm)
1	B1	ISA 50X50X4	2651	3	4.00	3.09	6
2	B2	ISA 50X50X4	2463	3	4.00	3.09	6
3	B3	ISA 50X50X4	2263	3	4.00	3.09	6
4	B4	ISA 50X50X4	2059	3	4.00	3.09	6
5	B5	ISA 50X50X4	1895	3	4.00	3.09	6
6	B6	ISA 35X35X4	1702	3	4.00	2.10	6
7	B7	ISA 35X35X4	1602	3	4.00	2.10	6
8	B8	ISA 40X40X4	1317	3	4.00	2.40	6
9	B9	ISA 40X40X4	1107	3	4.00	2.40	6
10	B10	ISA 40X40X4	908	3	4.00	2.40	6
11	B11	ISA 40X40X4	706	3	4.00	2.40	6
12	B12	ISA 40X40X4	513	3	4.00	2.40	6
13	G1	ISA 65X65X6	3250	3	6.00	5.80	6
14	G2	ISA 50X50X6	3050	3	5.00	4.50	6
15	G3	ISA 50X50X6	2850	3	5.00	4.50	6
16	D1	ISA 50X50X4	1600	3	4.00	3.09	6
17	D2	ISA 50X50X4	1500	3	4.00	3.09	6
18	D3	ISA 40X40X4	1400	3	4.00	2.40	6
19	D4	ISA 40X40X4	1300	3	4.00	2.40	6
20	D5	ISA 35X35X4	1200	3	4.00	2.10	6
21	D6	ISA 35X35X4	1100	3	4.00	2.10	6
22	D7	ISA 35X35X4	1000	3	4.00	2.10	6
23	D8	ISA 35X35X4	900	3	4.00	2.10	6
24	D9	ISA 35X35X4	850	3	4.00	2.10	6
25	D10	ISA 35X35X4	750	3	4.00	2.10	6

MATERIAL TABLE (DIAGONAL MEMBERS)							
S.NO.	MEMBER DESIGNATION	SIZE	Member/Cutting Length (mm)	Nos.	Thickness (mm)	WEIGHT (Kg/m)	Weld size (mm)
1	C1	ISA 65X65X6	2961	6	6.00	5.80	6
2	C2	ISA 65X65X6	2886	6	6.00	5.80	6
3	C3	ISA 65X65X6	2824	6	6.00	5.80	6
4	C4	ISA 65X65X6	2754	6	6.00	5.80	6
5	C5	ISA 50X50X4	2655	6	4.00	3.09	6
6	C6	ISA 50X50X4	2586	6	4.00	3.09	6
7	C7	ISA 50X50X4	2489	6	4.00	3.09	6
8	C8	ISA 50X50X4	2433	6	4.00	3.09	6
9	C9	ISA 45X45X4	2337	6	4.00	2.70	6
10	C10	ISA 45X45X4	2280	6	4.00	2.70	6
11	C11	ISA 45X45X4	2174	6	4.00	2.70	6
12	C12	ISA 45X45X4	2131	6	4.00	2.70	6
13	C13	ISA 40X40X4	2022	6	4.00	2.40	6
14	C14	ISA 40X40X4	1990	6	4.00	2.40	6
15	C15	ISA 40X40X4	1879	6	4.00	2.40	6
16	C16	ISA 40X40X4	1854	6	4.00	2.40	6
17	C17	ISA 65X65X6	1745	3	6.00	4.50	6
18	C18	ISA 65X65X6	1732	3	6.00	4.50	6
19	C19	ISA 50X50X4	1613	3	4.00	3.09	6
20	C20	ISA 50X50X4	1593	3	4.00	3.09	6
21	C21	ISA 50X50X4	1495	3	4.00	3.09	6
22	C22	ISA 50X50X4	1409	3	4.00	3.09	6
23	C23	ISA 45X45X4	1401	3	4.00	2.70	6
24	C24	ISA 45X45X4	1392	3	4.00	2.70	6
25	H1	ISA 65X65X6	3555	6	6.00	7.70	6
26	H2	ISA 65X65X6	3445	6	6.00	7.70	6
27	H3	ISA 65X65X6	3445	6	6.00	7.70	6
28	H4	ISA 65X65X6	3370	6	6.00	7.70	6
29	H5	ISA 65X65X6	3260	6	6.00	5.80	6
30	H6	ISA 65X65X6	3185	6	6.00	5.80	6

STEEL NOTES

1. ALL DIMENSIONS ARE IN MM.
2. DIMENSIONS ARE TO BE READ & NOT TO BE SCALED OFF.
3. CODES & SPECIFICATIONS:
 - (i) STRUCTURE STEEL SHALL CONFORM TO IS 226.
 - (ii) WELDING SHALL CONFORM TO IS 816.
 - (iii) FABRICATION & ERECTION SHALL BE ACCORDANCE TO IS 800.

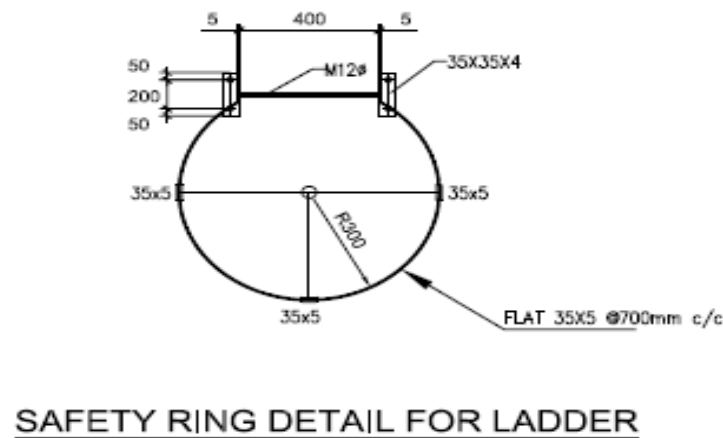
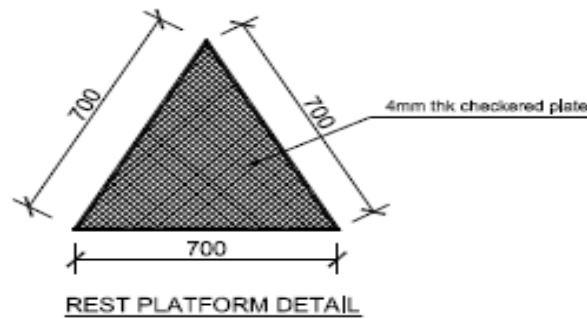
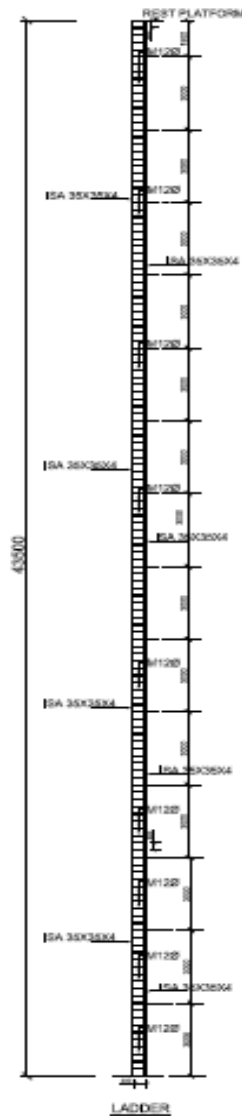
Member lengths, or weight not vary contractor to ensure these are in order

Member size for in order as per initial S.O. & 2 design report

As per 11/11/2018

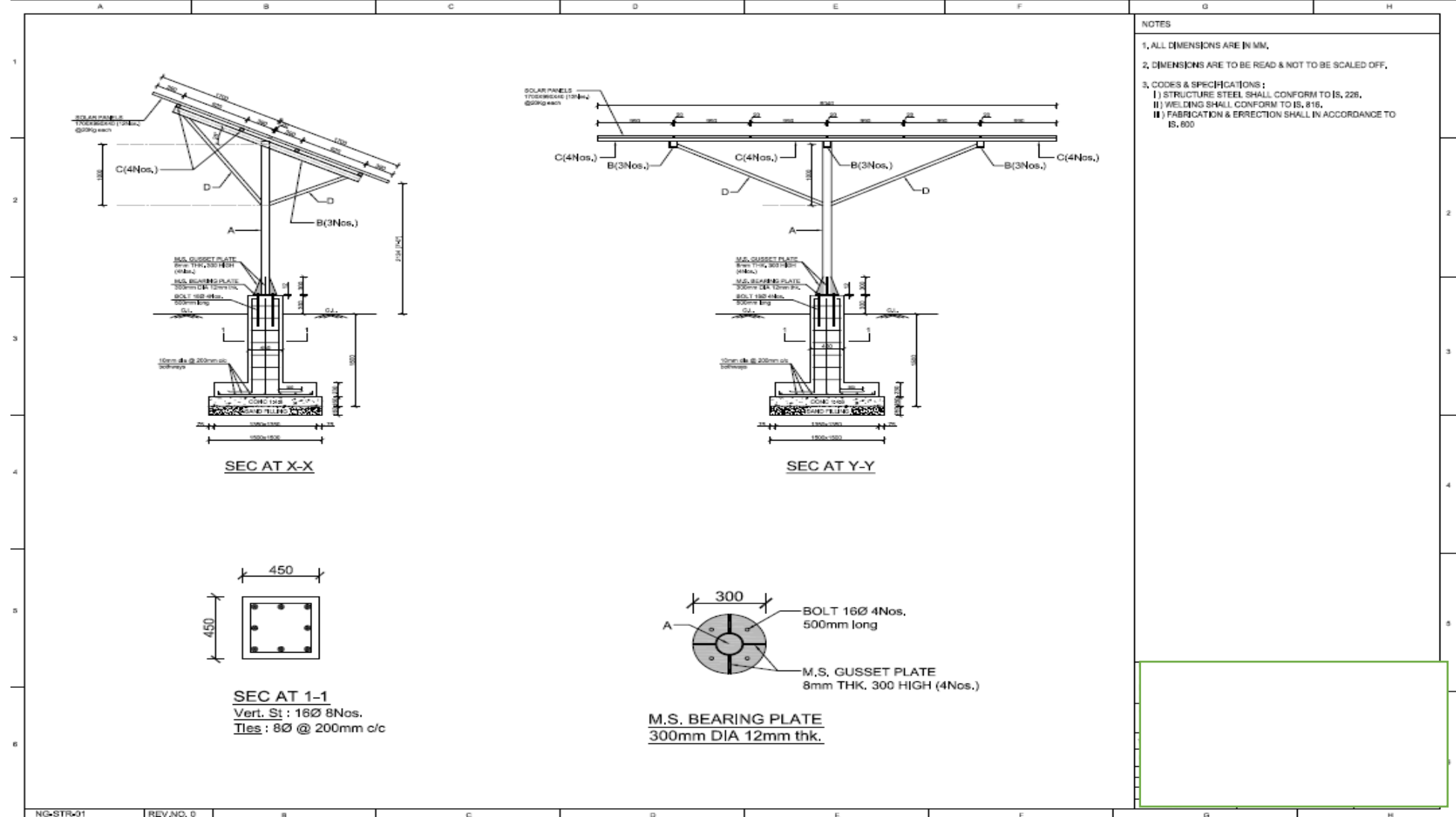
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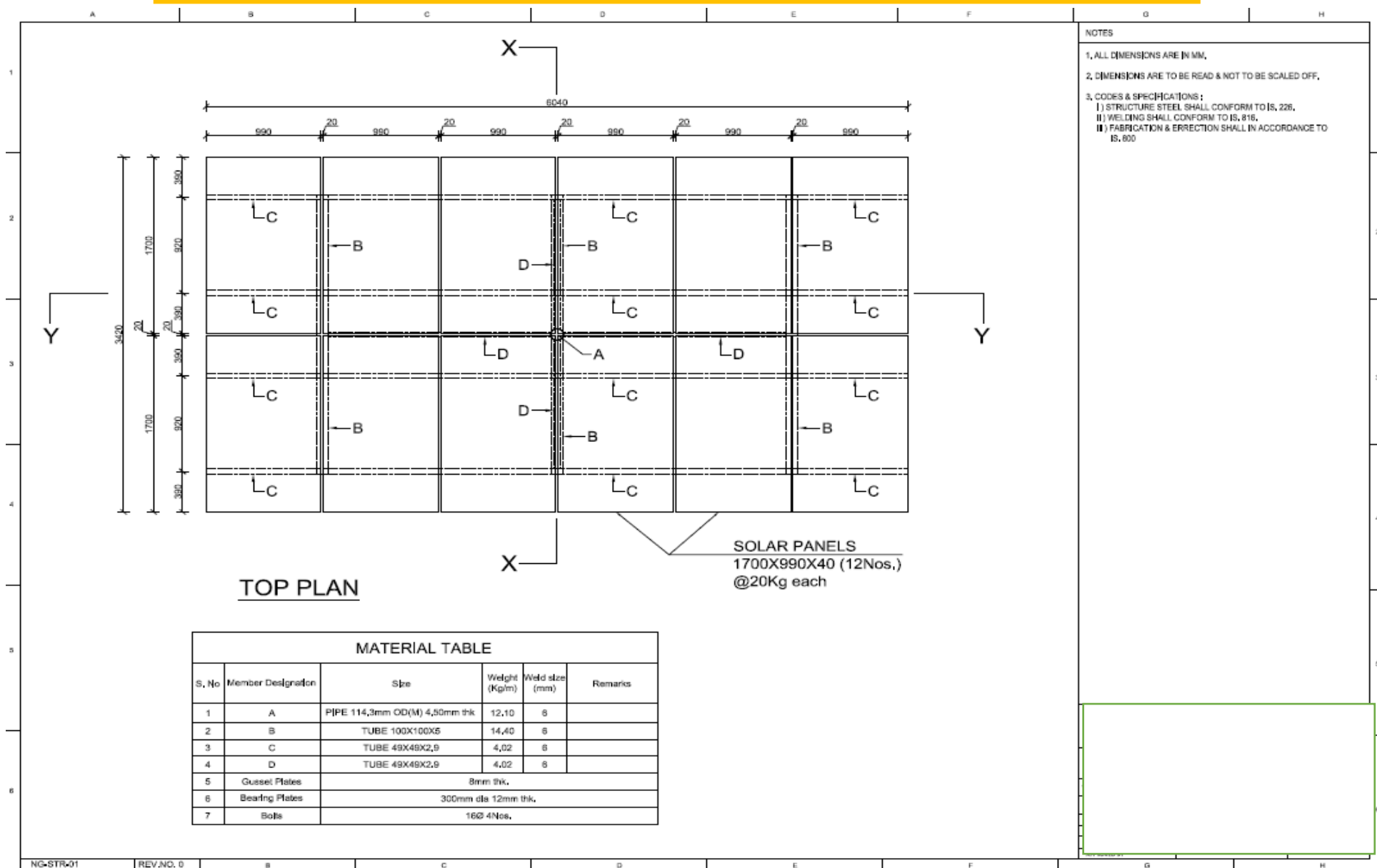
	RUNING TITLE	RVP
	MATERIAL TABLE (45M TOWER)	
	DRAWING NO.	DATE:
	S-110	06/02/18



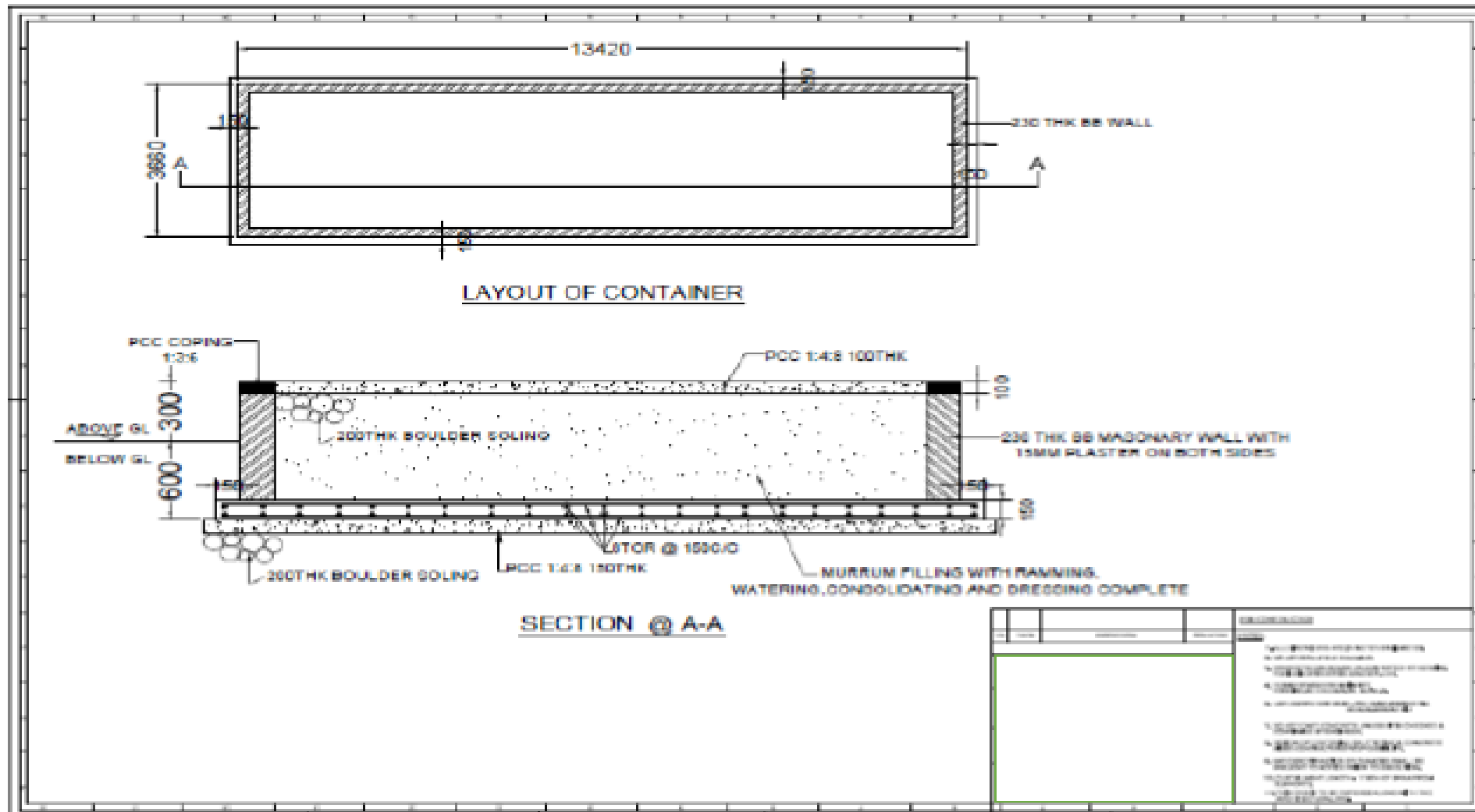
STEEL NOTES		
1. ALL DIMENSIONS ARE TO BE READ & NOT TO BE SCALE OFF.		
2. DIMENSIONS ARE TO BE READ & NOT TO BE SCALE OFF.		
3. CODES & SPECIFICATIONS		
4. STRUCTURE STEEL SHALL CONFORM TO IS 2062		
5. WELDS SHALL CONFORM TO IS 817		
6. FABRICATION & ERECTION SHALL BE ACCORDANCE TO IS 800		
7. TOWER BE CHECKED AS PER IS 800 PART 4 & 5		
8. TOWER BE CHECKED AS PER IS 800 PART 4 & 5		
9. ALL FABRICATED MEMBERS ARE TO BE HOT DIP GALVANIZED OR PRE GALVANIZED AS PER IS 800-1999.		
10. ALL JOINT & BOLTS ARE TO BE AS PER IS 800-1999.		
11. COLUMN IS FOR FABRICATED OF STEEL STRUCTURE IS 800.		
12. ALL TUBES SHALL CONFORM TO IS 800-1999.		
13. ALL TUBES SHALL CONFORM TO GRADE YST 20 WITH 100% TENSILE OF 200MPA AS PER IS 800-1999.		
14. ALL BRACING SHALL BE MILD STEEL WITH YIELD STRESS OF 200MPA.		
DATE		
DRAWN BY		
CHECKED BY		
LADDER DETAIL		
DATE		
05/08/18		

ANNEXURE-23: MINIMUM REQUIRED STANDARDS AND INDECATIVE DESIGN/ SIZING OF Solar Panels Mounting Structure with Installation

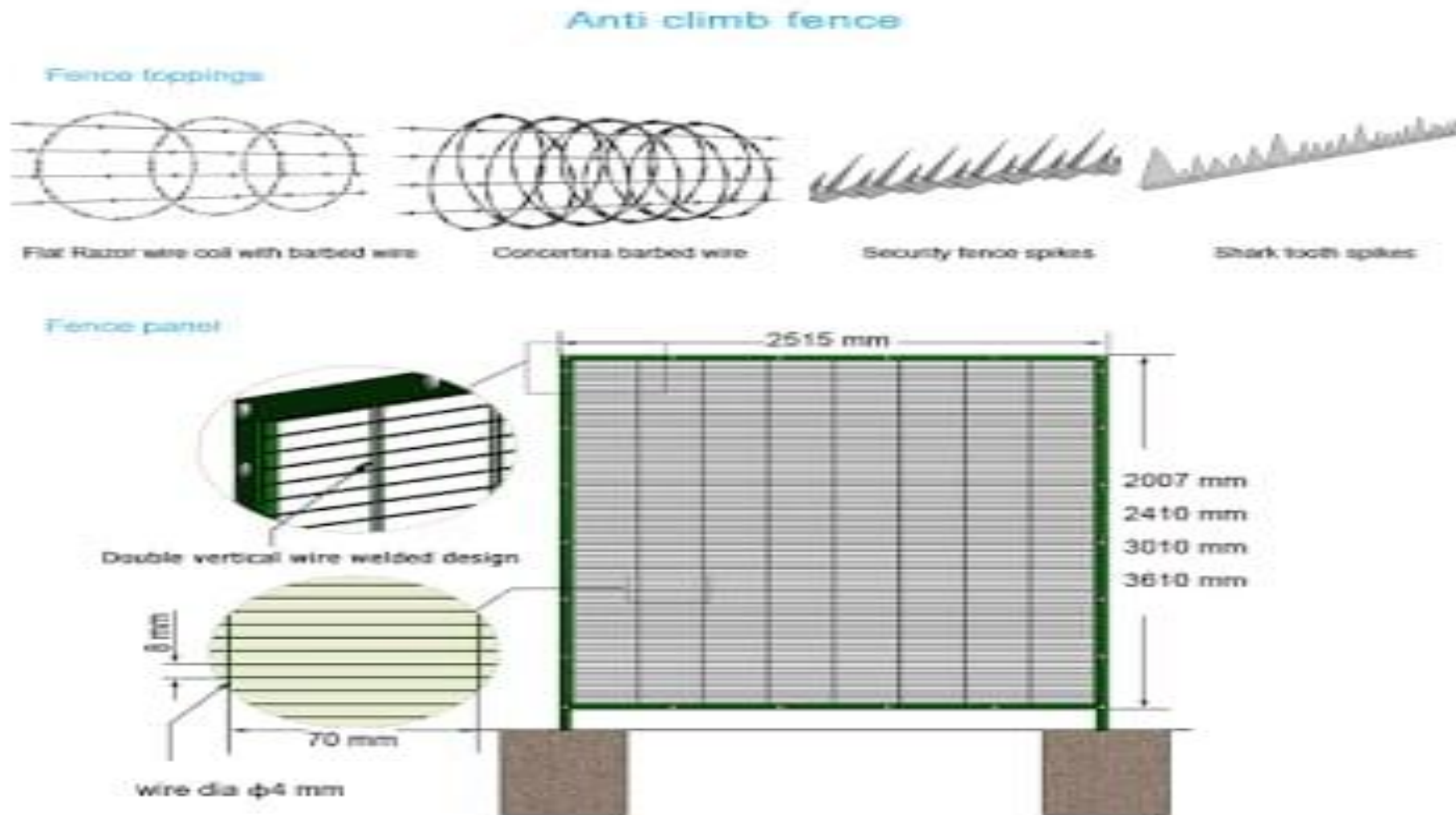




ANNEXURE-24: MINIMUM REQUIRED STANDARDS AND INDECATIVE DESIGN/ SIZING OF Container Foundation



ANNEXURE-25: MINIMUM REQUIRED AND INDECATIVE DESIGN of fencing type-2







Annexure-26 (Phase-1 & Phase-3 (ICCC,VMS,EMS) Technical Specifications):
Item: Observable Thermal with Clear vision PTZ assembly with embedded Video Encoder (P1.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
	Thermal Camera Specifications		
1.1.	Make:		
1.2.	Model:		
1.3.	PTZ Multi-Sensor Dual Mount (One Thermal & One Clear Vision)		
1.4.	Thermal Video Sensor Range- Atleast 8 KMs to detect Vehicle or better		
1.5.	Effective Resolution- Thermal Camera video resolution to atleast 640 ×480 or better effective to 307,200 pixels or better rendering more clarity		
1.6.	Optical Focal Length- Minimum 26mm - 105 mm or better		
1.7.	Zoom- 4× E-zoom and Focus		
1.8.	Spectral Range- 7.5 to 13.5 μm or 8 to 14 μm		
1.9.	Video compression- H.264, or M-JPEG		
1.10.	Pan Angle/Speed- Continuous 360° or better; 0.1° to 50°/sec or better		
1.11.	Tilt Angle/Speed- +45° to -45° or better ; 0.1° to 30°/sec or better		
1.12.	Operating temperature for both thermal & clear Vision- -10°C / +60°C		
1.13.	Power supply: 24 VDC 24 VAC		
1.14.	Should be sun-proof		
2.	Day/ Night CMOS Camera		
2.1.	Make:		
2.2.	Model		
2.3.	Sensor Type- Full HD 1080p 1/2.8 CMOS		
2.4.	Lens Focal Length- 4.3 mm to 129 mm or better based on zoom		
2.5.	Zoom (With Remote Zoom Capability) - 30x or better		
2.6.	Sensor Type Full HD 1080p		
3.	OEM s service center or OEM's authorized service center in India.		
4.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: IP Indoor Camera with IR (P2./ C3.1.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Camera Type: Dome		
4.	Standard: ONVIF Profile S.		
5.	Image Features: - Configurable image size, quality, and frame rate - Time stamp and text overlays - Configurable motion detection windows - Configurable brightness, saturation, contrast		
6.	Video Compression: - H.264 / H.265/ MJPEG format compression - JPEG for still images		
7.	Video Resolution: 2MP (Min.1920 x 1080) at 25 FPS or better		
8.	Audio: PCM/ G.711/G.722.1/G.726		
9.	Connectivity: 10/100 BASE-TX Ethernet port		
10.	Network Protocols: IPv4/ IPv6, HTTP, HTTPS, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, IP Filter, QoS		
11.	Event Management: - Motion detection - Sound level detection - Event notification and sending snapshots via SMTP		
12.	Operating temperature- -0°C / +60°C		
13.	Operating humidity : 20% to 80% non-condensing		
14.	Certification: UL/CE/BIS, FCC and RoHS		
15.	Full Duplex, Audio Input/ Output 1 Ch		
16.	Sensor- 1/2.8" CMOS sensor or better		
17.	Remote configuration and status using web based tool		
18.	Internet Protocol Support: IPv4 and IPv6		
19.	IP Support: Static/dynamic or both		

20.	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		
21.	Lense Type: 3 to 9 mm, F1.3 motorised autofocus and autoiris ,varifocal or better		
22.	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)		
23.	OEM s service center or OEM's authorized service center in India.		
24.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Full HD IP Bullet Camera With IR (P3.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Camera Type: Full HD IP Bullet Camera with IR (Day/Night)		
4.	Standard: Standard: ONVIF Profile S.		
5.	Minimum 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)		
6.	Video compression- H.264 or H.265		
7.	Certificates- UL/CE/BIS, FCC and RoHS		
8.	Image Sensor: 1/2.8" CMOS or better		
9.	Resolution: 2MP (Min.1920 x 1080) at 25 FPS or better		
10.	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPV6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS		
11.	Lense Type: 3 to 9 mm, F1.3 motorised autofocus and autoiris varifocal or better		
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.	Internet protocol Support: IPv4 and IPv6		
14.	IP Support: Static/dynamic or both		
15.	Connectivity: 10/100 base Tx Ethernet		
16.	Edge based video content Analytics: Video motion detection and Active tampering alarm		
17.	Alarm/Relay: 1 digital input, 1 Relay output		
18.	Operating temperature: -0 °C to 60 °C Humidity 20–80% RH (non-condensing)		
19.	Power- adaptor shall be supplied to make the equipment work on 230V +10%, 50Hz and Power over Ethernet (POE 802.3 af)		
20.	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets , Connector kit, screws etc.		
21.	OEM s service center or OEM's authorized service center in India.		
22.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Full HD IP PTZ Camera With IR (P4.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Standard: ONVIF Profile S Compliant		
4.	Certification: UL,CE/BIS ,FCC and RoHS		
5.	Video compression- H.264 or H.265		
6.	Streaming: Min. Triple compressed stream (Individually Configurable)		
7.	Image Sensor: 1/2.8" CMOS or better		
8.	Resolution: 2MP (Min.1920 x 1080) at 25 FPS or better		
9.	Minimum TCP, HTTP, RTP, RTSP, SNMP, IPV4, IPV6,FTP, NTP,DHCP, RTP, SMTP, UDP, UPnP, ICMP, IGMP, SSL, QoS, 802.1x, DNS, DDNS, HTTPS		
10.	Lense Type: 4.3–129 mm (x30), F1.6 or better motorized Varifocal, Autofocus, Auto iris		
11.	Edge based video content Analytics: Video motion detection and Active tampering alarm		
12.	Alarm/Relay: 1 digital input, 1 Relay output		
13.	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)		
14.	Web Client: Viewer through HTTP(min.) System Configuration Setting / Streaming PC Client: PC application client with a channel recording feature support		
15.	- Remote configuration and status using web based tool - Remote system update over Network using web client		
16.	Should be IPV4 and IPV6 supported		
17.	Housing: Poly Carbonate/ Aluminium Construction with IP-66 Including pole mount/wall mount accessories , Power and data cables		
18.	Pan Range & Speed: 0 deg to 360 deg, 0.2°/s–160°/s		
	Tilt Range And Speed: 180°, 0.2°/s–120°/s		
19.	Operating temperature: -10 °C to 60 °C		
20.	Power- Suitable adaptor shall be supplied to make the equipment work on 230V +10%, 50Hz and Power over Ethernet (POE 802.3 at)		
21.	Edge Based Video Analytics: Video motion detection and Active tampering alarm		
22.	All required accessories at site for installation of camera to be provided like Pole Mount, Corner brackets , Connector kit, screws etc.		
23.	OEM s service center or OEM's authorized service center in India.		
24.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Radio Setup (P5.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	PTP link with suitable external antennas based on solution requirement		
4.	Frequency availability: should be able to work in license free frequency zone.		
5.	Throughput: Aggregate Minimum Throughput of 250 MBPS		
6.	Configuration: Point-to-point configuration		
7.	Flexible Channel Width: 10/20/40 Mhz channels user configurable		
8.	Should be IPV4 and IPV6 supported		
9.	Modulation: Dynamic Adaptive Modulation QPSK, 16QAM,		

	64QAM, and Radio should have the capability to adapt the modulation mode depending on the link environment, ensure best throughput in nLOS situation. Modulation level shall be dynamically adaptive.		
10.	Ruggedized: IP67		
11.	Security: AES 128 Encryption with FIPS 197 and SNMPv3 management interfaces, and configurable password rules and should follow standard defines in IEEE802.3 for various parameters like Ethernet interface/ quality of services etc.		
12.	Radio should have separate outdoor and indoor unit per site of PTP link		
13.	Management & Configuration Capability: - Radio System should support local and remote installation, Configuration, Fault management through Element Management Software tool using single computer for installation and commissioning. - Radio System should have the feature of Link management for installation, configuration and troubleshooting without any pre configurations (Factory Defaults)		
14.	Software Upgradation: - Radio System should support the upgradation of firmware/software over the air - Radio System should support Scheduled/ Delayed SW upgrade. - Radio System should support Bulk software upgrade of multiple site equipment. - System should support software back up and restore functionality - Alarm indication for software incompatibility		
15.	Performance Monitoring: - The Radio should have inbuilt tool to check available throughput in link management software - Performance Monitoring logs, event logs and provision for monitor logs must be available through Element management software - Radio should have capability to store the performance		

	logs for atleast 15 to 30 days for downloading when required.		
	Radio system should support download of link diagnostics information logs from the radio for fault analysis.		
16.	Radio System should operate in India WPC Band 5.825Ghz – 5.875Ghz in accordance with GSR 38 (E) dated 19th Jan 2007 for outdoor deployment		
17.	Radio system should adhere EIRP limits defined by WPC India.		
18.	Radio system should be compatible/ integrable with the other devices to be deployed in WS&APS.		
19.	POE: AC PoE to power the ODU		
20.	Power Consumption: should not be more than 20 W		
21.	Radio should not be based on “WiFi CSMA CA based 802.11a/b/g/n/ac standards”.		
22.	Network Interface should support 10/100/1000 Mbps Port to enable asymmetric traffic		
23.	VLAN Support: It should be based on IEEE 802.1Q, 802.1P and QinQ.		
24.	System must support automatic channel selection and select alternative channels		
25.	Radio System should support Asymmetrical Bandwidth up to 85% - 90% (Uplink/DownLink)		
26.	Radio should have capability of GPS Sync to synchronize timing of radios installed in the entire solution.		
27.	Temperature supported should be -10° C to 60° C.		
28.	OEM's service center or OEM's authorized service center in India.		
29.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Outdoor Gigabit Network Managed Switch:Type-1 (P6.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Port: 8 ports (PoE Enabled)		
4.	Network Protocol: IEEE: 802.3 Ethernet, 802.3u Fast Ethernet, 802.3x Flow Control, 802.3ab Gigabit Ethernet, 802.1p QoS		
5.	Should be IPV4 and IPV6 supported		
6.	Power: 100-240VAC, 50/60Hz Internal Universal Power or AC/DC power adaptor to be provided		
7.	FCC Class A, ROHS		
8.	Environment:		

	-2° to 60°C Temperature 5% ~ 95% RH (Non-condensing) Humidity		
9.	OEM's service center or OEM's authorized service center in India.		
10.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Weather proof network cable (P7./ C3.2.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	The cable should be made available in a we-tote box, which protects the environment		
4.	The cable should have 4 pair construction with round sheath and proper construction to avoid the Alien crosstalk		
5.	The cable should be round in shape for ease of installation		
6.	In the Channel, the cable length should be as low as 3 meter and 5 meter while meeting the bandwidth requirements		
7.	The cable should be available in Non- Plenum/Plenum/Low smoke Zero halogen versions to meet the installation and safety requirements		
8.	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		
9.	The cable, patch cords and connecting hardware shall be UTP components that do not include internal or external shields, or drain wires.		
10.	The OEM should have published performance e guidelines and installation instructions		
11.	OEM's service center or OEM's authorized service center in India.		
12.	The OEM should provide 20 years of Extended product warranty and application assurance		

Item: Solar Panels (P8.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		

2.	Model:		
3.	Poly Crestline solar panels (250 Watts)		
4.	Bypass diodes to avoid effect of partial shading		
5.	Anodized aluminum alloy frame		
6.	Tempered glass for rugged protection		
7.	IEC 61215 certification by EuroTest and TUV		
8.	OEM's service center or OEM's authorized service center in India.		

Item: Solar Panels Mounting Structure with Installation and Elevated Control Room (P9.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make		
2.	Model		
3.	Six pole dual rail solar Panel mounting		
4.	Material: Galvanized steel		
5.	OEM's service center or OEM's authorized service center in India.		
6.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Solar Charge controller and Inverter (P10.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	3 KVA Solar Charge Controller and Inverter		
4.	Solar PCU Rating: 3000 VA		
5.	PV Charge Controller Rating: 3000 Wp		
6.	I/P DC Voltage: 48V		
7.	Input DC Voltage Range: 44.0-57.6V $\pm$ 0.4 V		
8.	No load shutdown ON/OFF: Configurable as per requirement		
9.	Waveform & Regulation: Pure Sine Wave 220V $\pm$ 2%		
10.	Grid power usage: Automatic		
11.	Total Load: 3KW@UPF		
12.	Local and Remote Monitoring and LCD Display for easy monitoring		
13.	OEM's service center or OEM's authorized service center in India.		
14.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Batteries (P11.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	100 AH Solar Battery		
4.	tubular or better 12 V Range		
5.	IS 13369 specification and with latest amendments		
6.	Factory Charged condition with optimal quality and ready to use		
7.	OEM's service center or OEM's authorized service center in India.		
8.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Tower with elevated foundation and installation (P12. / C3.3.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Material: Galvanized steel		
4.	Tower Height (Over and above foundation): 35 (±5) meters to comply the specifications/design/ standard mentioned in Annexure or better		
5.	Height of Foundation: 5 meter to comply the specifications/design/ standard mentioned in Annexure or better		
6.	OEM's service center or OEM's authorized service center in India.		
7.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Note: Drawings are attached at Annexure for reference.

Item: Power Cable (P13. / C3.4.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make		
2.	Model		
3.	PVC Insulated and PVC Sheathed (Heavy Duty) Un armoured		
4.	Conductor: Copper		
5.	Conducted Area: 4 sqmm or better		

6.	Core: 2		
7.	Weather Proof		
8.	Standard: IS 694 : 1990 or latest standards		
9.	OEM's service center or OEM's authorized service center in India.		
10.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Copper Cable (P14.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Devia- tion
1.	Make		
2.	Model		
3.	PVC Insulated and PVC Sheathed (Heavy Duty) Un armoured		
4.	Conductor: Copper		
5.	Conducted Area: 16 sqmm		
6.	Single Core		
7.	Weather Proof		
8.	Standard: IS 694 : 1990 or latest standards		
9.	OEM's service center or OEM's authorized service center in India.		
10.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Lighting Protection and Earthing (P15./ C3.5.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Devia- tion
1.	Make:		
2.	Model:		
3.	ESD Type		
4.	High quality atleast 40 sqmm copper cable		
5.	Lighting protector: as per IEEE specification with amendments		
6.	ESE Lighting Arrester		
7.	Earthing arrangement with atleast 100 Mtr protection on ground as per requirement (preferable 5 pole)		
8.	OEM's service center or OEM's authorized service center in India.		
9.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Aviation Light (P16./ C3.6)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Light: Configuration of LEDs		
4.	Mount: Pole Mounted (Rigid/ Frangible as per requirement)		
5.	Input Voltage: 100-240 VAC		
6.	Standard: as per GOI and industry standard		
7.	OEM's service center or OEM's authorized service center in India.		
8.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Outdoor Box (P17.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Should accommodate all specified equipment properly and safely at onsite setup		
4.	Should have proper doors and locks		
5.	Should be designed as per requirement of solution and equipment to be deployed inside the box.		
6.	IP Rating: Atleast IP 55 or better		
7.	OEM's service center or OEM's authorized service center in India.		
8.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Containerized Data Center and Monitoring Room

Item: Modular Container (C1.1)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	Special Container module for data center and monitoring room in a single unit based upon requirement and components specified		
4	Frame: Steel		
5	Walls: Zinc plated corrugated steel or steel		

6	Type: 40 ft High Cube		
7	External Measurement:		
7.1	Length : 40 feet		
7.2	Width : 8 feet		
7.3	Height : 9.5 feet		
8	Insulation:		
8.1	Material: 100mm mineral wool or 32 mm Foamed Nitrile rubber and should be anti inflammable material		
8.2	Temperature Range: -50°C to +105°C		
8.3	Thermal Conductivity at 0°C is 0.035 W (m.k) & Thermal Conductivity at +40°C is 0.039 W (m.k) or better		
8.4	Surface Spread of flames: Class 1		
9	CONTAINER WALL PAINT - exterior		
9.1	TYPE: Single pack, A high build chlorinated rubber based paint		
9.10.	Recommended DFT: 30-40 microns per coat		
9.16.	Colour: White		
10	CONTAINER WALL PAINT - INNER SIDE		
10.1	TYPE: Single-package silicone paint		
10.2	Features: Resistant to thermal shock Provides outstanding long-term Performance 2 coats of same paint upto 600°C Air-dries to touch (full film formation properties occurs after curing)		
10.3	Colour: White		
10.4	Consistency: Smooth and Uniform		
10.5	Finish: Matt		
10.14.	Dry Film: 35 microns / per coat		
10.16.	Locks: Industry Standard lock device and panic bars on the doors		
11	Cooling Capacity:		
11.1	15KW or better according to requirement. In case of 15 KW, there shall be 2 x 7.5 KW precision air-conditioners with heaters and humidifies with redundancy.		
11.2	The air-conditioners should be designed at internal temp. of + 22 deg C when external temp. is + 50 deg C.		
11.2	Digital scroll/ Inverter to modulate cooling capacity		
11.3	Graphical display to monitor and control the heat variations		
11.4	EC fans to regulate the airflow		
11.5	Complete low side works including piping, valves, etc.		
12	Racks: As per requirement and components of control room setup with rugged aluminum frame/ steel and mounting rail to mount and adjustment.		
13	Complete low side electrical works (Internal to container) including cabling, cable trays, lighting, point wiring, switches and sockets, etc.		
14	Power distribution panel for supplying power to all items with		

	protection system to different racks , UPS , AC , UPS outgoing and Incoming Panel ,Comfort and Precision AC for racks .		
15	2 LT panels and 1 IBMS panel should be included along with appropriate fire extinguishing system		
15.1	Analogue addressable fire alarm system		
15.2	Access control system		
15.3	Rodent repellent system		
15.4	CCTV system (inside the container)		
15.5	Water Leak Detection System		
15.6	Fire Extinguishers: Atleast two of 6 KG ABC Type		
16	Proper Partition between data centre and monitoring room with doors and locks (locks should be inside the doors)		
17	Adequate lights in entire unit (LED Lights)		
18	a. The container shall be factory fitted with all above components including UPS, PAC, cabling, lighting, control room, furniture, LED displays, etc. b. Below Factory Acceptance Tests shall be done for entire container and shall be witnessed by the customer representative:		
	- Entire pre-fitted container (Including UPS, PAC, lighting, etc.) shall be factory tested with external ambient temperature of 50 deg C for 1 hr. - The UPS and PAC units should be tested with the rack mounted heaters for 8 Hrs.. c. Server room shall be protected with NOVEC based gas suppression system.		
19	OEM's service center or OEM's authorized service center in India.		
20	Warranty: 5 Years onsite comprehensive warranty		

Item: Rack Server (C1.2)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	2U Rack Mountable		
4	Min. 2 X Intel® Xeon® E5-2630v4 (2.2GHz/10-core/25MB L3 Cache) Processor		
5	Motherboard: Compatible Intel C600 Series Chipset		
6	Memory: Min. 256 GB DDR4 LRDIMMS (OEM Memory), ECC with multi-bit error protection and memory sparing.		
7	HDD: 8 x 1 TB SATA/SAS HDD of 2.5 inch/ 3.5 inch		

8	Controller: SAS RAID Controller with RAID 0,1,5 with at least 1GB Flash (onboard or in a PCI Express slot)		
9	Optical Drive: Internal DVD-ROM Drive		
10	Network: Min 2 x 1Gbps, 2 x 10Gbps SFP+ LR/SR single mode fiber port providing Hardware acceleration and offloads for stateless TCP/IP, TCP Offload Engine (TOE) and Jumbo frames. Should be compatible with supplied switch.		
12	Interfaces: 1 x Serial, 2 x USB Ports		
14	Power Supply: Redundant Platinum/ Titanium Power Supplies, All power supplies should support Active/ Standby mode		
15	FANs: Redundant hot-pluggable		
16	Graphics: Integrated		
17	Industry Standard Compliance: ACPI 2.0 Compliant, PCIe 2.0/3.0 Compliant, USB 3.0/2.0 Support, UEFI (Unified Extensible Firmware Interface Forum)		
18	Embedded System Management: OEM Systems Management Software to be included, Should support service alerting, reporting and remote management with dedicated Gigabit management port, Server should support configuring and booting securely with industry standard Unified Extensible Firmware		
19	Security: Power-on password, Serial interface control, Administrator's password, UEFI, Should support multiple customizable user accounts on management port and SSL encryption, Should also support directory services integration, TPM 1.2		
20	Certification: Should be certified on the MS-Windows / RHEL OS		
21	Cables/ Connectors: All required cables and connectors to be included for all populated ports and interfaces		
22	Genuine MS-Window Server Standard/ RHEL LINUX (latest version) with Internet Security (latest version) of Symantec/ Trend Micro/ Sophos Server Security with Media & 5 Year Subscription (OEM Support, Updates, Patches)		
23	The OEM should be a leader in the Gartner Magic Quadrant		
24	Server Remote Management Systems (e.g. IMM / ILO/ ILOM/ DRAC etc.)		
25	OEM's service center or OEM's authorized service center in India.		

26	Warranty: 5 years Comprehensive Warranty		
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Item: External Storage (C1.3)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	Dual Active controller in No Single Point of Failure		
4	Memory: 12 GB or higher memory for each controller		
5	Protocols: ISCSI/FC/NFS/CISF		
6	Ports: 4 X 10 gig port/ 4 X 16 gig port with required SFPs, Cables/ Patch Chords for all ports		
7	Performance: should be configurable to provide at least 250 MBPS with 90% write & 10% read workload		
8	Capacity: Atleast 100 TB usable capacity in RAID 6 or better (atleast one hot spare should be configured)		
9	Scalability: should be scalable to twice of the minimum offered capacity.		
10	OEM's service center or OEM's authorized service center in India.		
11	Warranty: 5 years Comprehensive Warranty		

Item: Standard Managed Router (C1.4)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	4 x 10/100/1000 Gigabit Ethernet routed ports		
4	2 EHWIC slots		
5	1 Doublewise EHWIC Slots		
6	USB FLASH Memory: 256 MB		
7	DDR2 DRAM: 512 MB		
8	One External USB flash-memory slots (Type A)		
9	One USB console port (mini-Type B)		
10	One Serial console port (up to 115.2 kbps) and Serial auxiliary port (up to 115.2 kbps)		
11	AC Input Voltage: 100-240V~		
12	AC Input Frequency: 47-63 Hz		
13	OEM's service center or OEM's authorized service center in India.		

14	Warranty: 5 years Comprehensive Warranty		
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Item: Gigabit Managed Network Switch: Type-2 (C1.4)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	Port: Atleast 24 x 1Gbps and 2 X 10 Gbps (SFP+), SFP to be included along with patch chord (7 ft) for all ports		
4	IPv6 over Ethernet, dual stack, IPv6 over IPv4 network, IPv6 neighbor discovery, stateless address configuration, maximum transmission unit (MTU) discovery, WEB, SSL, Telnet, Ping, Traceroute, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, ACLs, QoS		
5	Switching Capacity: atleast 128Gbps nonblocking		
7	PVE/ Private VLAN feature/ equivalent		
8	Cabling type: Unshielded twisted pair (UTP) Category 5 or better		
9	Built-in web user interface for easy browser-based configuration (HTTP/HTTPS)		
10	SNMP versions 1, 2c, and 3 with support for traps		
11	Port based; 802.1p VLAN priority based; IPv4/v6 IP precedence/ToS/DSCP based; DiffServ; classification and re-marking ACLs		
12	Standard:		
	o 802.3 10BASE-T Ethernet		
	o 802.3u 100BASE-TX Fast Ethernet		
	o 802.3ab 1000BASE-T Gigabit Ethernet		
	o 802.3z Gigabit Ethernet		
	o 802.3x flow control		
	o 802.3ad; 802.1D Spanning Tree Protocol (STP)		
	o 802.1Q/p VLAN		
	o 802.1w Rapid STP		
	o 802.1s Multiple STP		
	o 802.1X port access authentication		
13	Power: 100–240V 47–63 Hz, internal, universal		
14	POE: POE Compliant (IEEE 802.3af/at)		
15	Certification: FCC Class A, ROHS		
16	Operating Environment: 0° to 50°C Temperature - Humidity 10% to 90%, noncondensing		
17	OEM's service center or OEM's authorized service center in India.		
18	Warranty: 5 years Comprehensive Warranty		

Item: Client PC (C2.1)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	Processor: Intel Core i5 6 th generation Processor or better		
4	Chipset: Compatible Chipset on Intel motherboard		
5	Memory: 8 GB DDR4 RAM		
6	1 TB Serial ATA HDD or higher		
7	Internal DVD Writer		
8	Monitor: 23" inch TFT LED Digital Colour Monitor, TCO' 06 certified monitor		
10	Keyboard: OEM USB Keyboard		
11	Mouse: Two button USB Optical Scroll Mouse w/ Pad		
12	Cabinet: Mini Tower with Tool less chassis		
13	I/O Ports: One Serial Port, 1 RJ45 port for Gigabit Ethernet, min. 2 USB ports in the front, min. 4 USB ports at the back, Headphone (front), Microphone(front), Line in, Line out, VGA Port		
14	Network Features: 10/100/1000 on board integrated network port		
16	Multimedia: Integrated Audio and Graphic Controller		
17	Preloaded Software: MS-Windows 10 Professional or latest With OEM recovery partition		
18	Antivirus: Internet Security (Latest version) of McAfee/ Norton/ Kaspersky/ Quick heal/ Trend Micro/ Sophos with Media & 5 Year Subscription (OEM Support, Updates, Patches)		
19	Certifications: EPEAT Gold rating, ENERGY STAR 5.0- compliant, RoHS-compliant, Windows Certified		
20	Other Accessories: Patch Cord (7 ft.) to be bundled		
21	OEM's service center or OEM's authorized service center in India.		
22	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of installation		

Item: Display for 24x7 display (C2.2)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	Type: LED slim monitor		
4	Display Size: 55 Inch		
5	Display Resolution: Full HD (1920X1080) or better		
6	Aspect Ratio: 16:9		
7	Brightness: Minimum 350 cd/m ² or better		
8	Contrast Ratio: 1000:1 or better		
9	Viewing Angle: 178°/178° or better		
10	AMD Free Sync: ON/OFF		

11	D-sub + DVI-D + HDMIx2+headphone jack +audio line in + audio line out		
12	Inbuilt speaker (10W X2 or better)		
13	HDMI, USB and RGB ports (at least 1 of each type)		
14	Cable (Power/ RGB/ HDMI) and other required cables and connectors		
15	Compatible with latest Windows/ Linux version along with software compatibility		
16	Media Player: Compatible & Software Support		
17	In-built Wifi		
18	Operating hours: 24 X 7		
19	Rotation: Portrait & Landscape		
20	Accessories: Wall mount bracket, Table mount stand, remote, batteries, manual, adaptor, all cables, cord etc.		
21	OEM's service center or OEM's authorized service center in India.		
22	Warranty: 5 years Comprehensive Warranty		

Item: Cabinet (C2.3)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	<u>Usage:</u> Designed for continuous use 24X7		
4	<u>Material:</u> Rugged steel material		
5	Size of desk: Atleast 48" wide control room		
6	Surface Quality: Power coat paint finish; tough protection for chips		
7	Enclosures: Cabinets and turrets themselves can serve as equipment enclosures.		
8	Racks & Subpanels: Equipment subpanels and racks can be added easily		
9	Modularity: Modular construction for easy expansion or modification		
10	OEM's service center or OEM's authorized service center in India.		
11	Warranty: 5 years Comprehensive Warranty		

Item: Chairs (C2.4)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	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.		
4	MID BACK SIZE: 47.5 W X 58 H cm		
5	Seat Size: 47 W X 48 D cm		
6	Foam Density: The HR polyurethane foam is moulded with density +45 + 2 Kg/m ³ and hardness 16 + 2 kgf as per IS :7888 for 25% compression		
7	Pneumatic Height Adjustment: The pneumatic height adjustment has an adjustment stroke of 12 +/- .3 cm.		
8	ARMRESTS: The one piece armrests are injection moulded from black copolysted polypropylene.		
9	REVOLVING MECHANISM: The chair has mechanism 360 degree revolving type.		
10	WHEEL CASTORS: The twin wheel castors are injection moulded in Black Nylon.		
11	TELESCOPIC BELOW ASSEMBLY: The below assembly is 3 piece telescopic type injection moulded in black polypropylene		
12	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+ .5 cm pitch center dia 76.3+ 1 cm castors.		
13	COLOR OPTIONS: Color options should be available viz. Blue, Red etc. (Color shall be decided at the time of order)		
14	OEM's service center or OEM's authorized service center in India.		

15	Warranty: 5 years Comprehensive Warranty		
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Item: Online UPS (C3.7)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	10 KVA Online UPS with monitoring software and isolation transformer.		
4	Proper LED screen to monitor the UPS		
5	SMF Batteries for backup atleast for 2 hours Note: Please include on refresh cycle after 2.5/ 3 Years		
6	OEM's service center or OEM's authorized service center in India.		
7	Warranty:5 Years onsite comprehensive warranty		

Item: Silent DG Set (62.5KVA) (C3.8)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make		
2	Model		
3	DIESEL ENGINE: Engine should be of 4 cylinders, inline, 4 stroke cycle, Water cooled turbo charged after cooled, developing 84 BHP at 1500 RPM under NTP conditions of BS:5514. The engine shall be provided with electrical starting arrangement & shall give the electrical output of 62.5KVA/50KW at 0.8 power factor, 415Volts at the alternator terminal.		
4	ALTERNATOR: single bearing alternator suitable for continuous operation generating 62.5KVA at 1500 RPM, 415Volts , 0.8 power factor (lag) suitable for 50 Hz, 3 phase, 4 wire system, confirming to BS 5000/ IS 4722. The alternator should be brushless type, screen protected , revolving field, self excited, self regulated through an AVR. The alternator should have following features: - $\pm 1.0\%$ voltage regulation (max.) in static conditions - IP: 23 protection with insulation class H - Permissible overload of 10% for one hour in 12 hours of operation		
	CONTROL PANEL:		

5	The Control Panel should be manufactured with 14/16 gauge CRCA sheet and should be powder coated for a weather-proof and long lasting finish. The Control Panel should consists of the following parts:		
	- Genset Controller - Aluminium Bus Bars with suitable capacity with in/out-going terminals - Indicating Lamps for 'Load On' and 'Set Running' - Instrument fuses duly wired and ferruled - 125 Amp Adjustable MCCB of suitable settings with overload and short circuit protections.		
6	16 character x 2 line alphanumeric LCD display with LED backlight		
7	Operator interface		
8	Should Provide a record of most recent fault conditions. Fault history stored in the control non-volatile memory		
9	Provide Alternator data -Voltage (line to line and line to neutral voltage) - Current (1 ph or 3 ph) -kVA (3 ph and total) - Frequency		
10	Provide Engine data -Starting Battery Voltage -Engine running hours- Engine Temp. - Engine oil pressure		
11	Control includes provision for Service adjustment and calibration of DG control functions -Voltage, frequency selection --Configurable input and output set up -Meter calibration		
	Engine controls ▪ Power Start to operates on 12 VDC batteries ▪ Auto start mode should accepts a ground signal from remote devices to automatically start the DG set. The remote start will also wake up the control system from sleep mode. ▪ Engine Starting – The control system should supports automatic engine starting, Primary and back up start disconnects are achieved by battery charging alternator feedback or main alternator output frequency. ▪ Controller should provide configurable time delay of 0-300 sec to start after remote start signal and time delay of 0- 600 secs prior to shutdown after stop signal. ▪ Sleep mode to increase battery life. Configurable current settings from low to minimize current draw when genset is not working.		

12			
13	Engine Protective Functions should include ▪ Configurable alarm output ▪ Emergency stop: Annunciated whenever an emergency stop signal is received by the control. ▪ Low Lube oil pressure warning and shut-down ▪ High engine water temperature warning/shutdown ▪ Low coolant temp warning ▪ Sensor failure indication ▪ Low and high battery voltage warning ▪ Weak battery warning ▪ Fail to start shut down ▪ Cranking lockout: Control will not allow the starter to engage or to crank the running engine ▪ Cyclic cranking : Configurable for the number of starting cycle (1 to 7) and duration of crank and rest periods.		
14	Alternator Protective functions should include ▪ High and Low AC voltage shut down ▪ Under and over frequency shutdown / warning ▪ Loss of sensing voltage input shut down		
15	ESSENTIAL ACCESSORIES: ☐ Fuel tank: Sub Base Fuel tank of 14 SWG MS sheet of adequate capacity. ☐ Base Rail: Base Rail with integral fuel tank is provided. ☐ Batteries: For electrical control circuit 1 no., 12 Volts, 45 AH batteries for electrical starting of DG set.		
16	Should be Compact, Sleek, Manual w/O AMF panel		
17	Sound Proof, Weather Proof enclosure		
18	Confirms to statutory Govt. noise level norms		
19	The Enclosure should be of modular construction with the provision to assemble and dismantle easily.		
20	The Enclosure should be fabricated in 16 SWG-CRCA- sheet.		
21	All Nuts-bolts, hardware should be of Stainless Steel for longer life		
22	Battery should be provided in a tray inside the Enclosure.		
23	Doors are gasketed with high quality EPDM gaskets to avoid leakage of sound		

24	Sound proofing of enclosure is done with high quality foam of suitable thickness and density for better sound attenuation.		
25	A special Critical grade silencer should be provided to control exhaust noise.		
26	Specially designed sound attenuators should be provided to control sound at air entry & exit points inside the Enclosure		
27	To make the system vibration free, engine and alternator are mounted on specially designed anti-vibration pads mounted on base frame		
28	The enclosure is designed and layout of the equipment should be such that there is easy access to all serviceable parts		
29	Adequate ventilation should be provided to meet air requirement for combustion & heat removal.		
30	There should be an arrangement for illumination inside the Enclosure.		
31	The silent DG set should have following safeties: • High water temperature. • Low lub oil pressure. • High enclosure temperature. • Emergency stop push button outside the Enclosure & over speed shut down.		
32	Standard Control Panel should be mounted inside Enclosure itself		
33	With UV resistant powder coating, can withstand extreme environments		
34	Noise level should be 75 dB(A) at distance of 1 mtrs. in open free field environment as per ISO 8528 part 10.		
35	Flush styling – no projections		
36	Fluid drains for lube oil and fuel		
37	Fuel filling point		
38	OEM's service center or OEM's authorized service center in India.		
39	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Radio Over IP (M1):

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		

2.	Model:		
3.	Local and remote shared dispatch application		
4.	Connect Upto 8 radios with internally combines audio for all connected radios with a single Ethernet connection to the IP network		
5.	PTT (30ms + Network Delay)		
6.	Voice Processing (50ms +Network Delay + Jitter Delay)		
7.	1000 Packets of AES 256 bit encryption per second		
8.	Audio: Mic: 8V or +10V, 2K Ohm pull-up Headset Input Impedance (Mic): 2K Ohm Headset Output Impedance (Earpiece): 50 Ohm Speaker Output Impedance: 1 K		
9.	Ports: • 8 DB25 Audio Ports • 2 RJ45 10/100 MB Ethernet Ports • 1 DB9 MMI local configuration port • 1 Speaker output • 1 Headset Stereo/Mono connection • 1 PTT connection		
10.	Power: +22 to +26 VDC		
11.	Operating Environment: Temperature: 0° to 50°C Humidity: 10% to 90%		
12.	OEM's service center or OEM's authorized service center in India.		
13.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Base Radio Station (M2.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Frequency band for receiver & transmitter : VHF, UHF		
4.	RF Output: 1-25 W for Lower & 25-45 for higher		
5.	Frequency Stability (receiver & transmitter): ± 5 ppm		
6.	Channel Spacing: Receiver: 12.5 kHz / 25 kHz* Transmitter: 12.5 kHz / 25 kHz*		
7.	Analog Sensitivity of Receiver: 0.3 μ V, 0.22 μ V (typical)		
8.	Digital Sensitivity of Receiver: 5% BER @ 0.25 μ V (0.19 μ V typical)		
9.	Intermodulation of Receiver: 78 dB/ 75 dB Based on frequency band		
10.	Spurious Rejection of Receiver: 80/ 75 db Based on Frequency Band		
11.	Rated Audio: 3 W (Internal), 7.5 W (External - 8 ohms), 13 W (External - 4 ohms)		
12.	Audio Distortion @ Rated Audio: 3% (typical)		
13.	Hum and Noise for transmitter & Receiver: -40 dB @ 12.5 kHz / -45 dB @ 25 kHz*		
14.	Modulation Limits for Transmitter : ± 2.5 kHz @ 12.5 kHz / ± 5.0 kHz @ 25 kHz		
15.	Digital Protocol: ETSI TS 102 361-1, -2, -3		
16.	Operating Temperature: -30° C / +60° C		
17.	Storage Temperature: -40° C / +85° C		
18.	ESD: IEC 61000-4-2 Level 3		
19.	Dust and Water Intrusion: IP54, MIL-STD		
20.	OEM's service center or OEM's authorized service center in India.		
21.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Digital Handset with API Query Licenses (M3.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Frequency band: VHF, UHF		
4.	Repeater Capability		
5.	Display: Full, Color, Day and night mode		
6.	Number of Channels : 100 or higher		
7.	Group Calling and one to one calling		
8.	Customer programing Software and noise reduction software		
9.	Blue tooth, VOX, Phonebook, Caller ID		
10.	Digital technology with Conventional, TDMA, IP Site Connect system type		
11.	Digital Protocol ETSI TS 102 361-1, -2, -3		
12.	Dust Cover		
13.	IP Standard: IP 67 or suitable for proposed solution		
14.	Frequency: 136-174 MHz, 403-527 MHz for both receiver & transmitter		
15.	Frequency Stability: ± 5 ppm		
16.	Modulation Limiting : $\pm 2.5\text{kHz}$ @ 12.5 kHz / $\pm 5.0\text{kHz}$ @ 25 kHz^3		
17.	Audio Distortion @ Rated Audio: 5% (3% typical)		
18.	OEM's service center or OEM's authorized service center in India.		
19.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: UAV (Drone) Setup (M4.)

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1.	Make:		
2.	Model:		
3.	Operating Frequency: 2.4Ghz/ 5.8 Ghz		
4.	UAV Weight with battery and payload < 6 Kg		
5.	Payload: Thermal and Visible Camera - Thermal Imager Uncooled VOx Microbolometer - Sensor Resolution 320 x 240 or better - Visible Camera Resolution 1920 × 1080 - Visible Camera FOV 90° - Pan: 360° continuous & tilt 90° - Zoom: 10X or better for Optical - Zoom: 4X or better for digital Note: Simultaneous dual sensor capability		
6.	Target Detection Slant Range (Human Size Target): - Daylight: Minimum 600m - Thermal: Minimum 300m		
7.	Control Range: Minimum 4 Km & More		
8.	Flight time – Atleast 40 to 45 minutes/ better with camera payload depending on air turbulence and height of area of operation above mean sea level.		
9.	Minimum Speed > 10 m/s.		
10.	Payload Replacement time < 2.5 mins Packing time (after UAV landing to fully packed state) < 10 mins		
11.	Robustness - Ability to withstand adverse weather conditions: wind tolerance of 9m/s, temperature Dust & Drizzle Resistance: IP53 rating or better Required certificate from NABL Accredited or Government lab shall be submitted.		
12.	Failsafe options for “out of range”, “battery low” or “Bad weather failsafe including High wind”. System provides provide RTL		
13.	UAV Size with propellers: < 100cm x 100cm or 650mm motor to motor		

14.	Battery Size: > 10000mah or better The UAV have a minimum of 2 batteries connected to independent circuits at all times as redundancy.		
15.	Autonomous Vertical Takeoff & Landing		
16.	Automated Obstacle Avoidance System		
17.	Electronic Sensor Stabilization System		
18.	Object Tracking Capability		
19.	Option for on-board video recording		
20.	Communication: - Transmit control commands from GCS to UAV - Transmit telemetry data and day& night video from UAV to GCS - Digital AES Encryption		
	- In case the GCS with in the radius of at least 3 km of the onsite setup, the live feed shall be transferred to Local Control Room using deployed network of WS&APS solution - GCS should be capable to receive various commands/ mission plans from Local Control room and able to execute.		
21.	Landing gears must be equipped with damping system		
22.	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.		
23.	Computing Hardware for Ground Operations: - Ruggedized Laptop/Tablet - Sunlight Viewable Display - Single Screen with Touch Screen Control for complete GCS operation including Map Display and Real-Time Video Display - Battery operation: Minimum 2 full endurance flights in one battery charge - Compatibility for receiving Flight Plans and movement		

	commands from Ground Station and Local Control Room		
24.	GUI Display Parameter: - Geographic Map along with UAV location, UAV trajectory, camera view polygon, waypoints and flight plan - Real-time video from the UAV with on-screen display of important parameters like UAV co-ordinates, target (payload) co-ordinates and range from UAV, true North indication, Distance from HOME etc.		
	- Real-time video should be displayed at all times during the flight - Artificial Horizon indicating UAV attitude		
25.	User Control: - One-click Take-off/Land/Hover - Set altitude of the UAV - Waypoint navigation - Dynamic flight plan adjustment - Point payload to ground co-ordinate function - RPV Mode which allows UAV to be flown in semi-autonomous mode by looking at the on-board video - Switch on/off Night Recovery Beacon		
26.	Joystick Control: - Full camera controls - Pan/Tilt - Zoom In/Out - Black/White Hot - RPV mode - Altitude control		
27.	Video: Video should be recorded in commonly portable video format (AVI/MP4 etc.) on the GCS. The UAV should not do any on-board recording until and unless the option has not been enabled.		

	- Video of the full flight should be recorded by default with option to turn recording off - Capability to take image snapshots with on- screen display parameters at any time during flight		
28.	Technical life of UAV Minimum 500 landings (Required certificate from NABL accredited lab or Govt. Institute shall be submitted))		
29.	The system is to be delivered, assembled, configured and tested. It has to be integrated with any WS&APS of the concerned place of operations (through the network of the WS&APS during the flight mode). Must be simple, rugged and easy to operate by a single operator.		
30.	The entire system must be packed in a rugged case for safe transportation along with waterproof backpack and weight of complete system including hard carrying case/ backpack and battery charger (s) must not exceed 20 KG.		
31.	OEM's service center or OEM's authorized service center in India.		
32.	Warranty: 5 years Comprehensive Onsite OEM Warranty		

Item: Customized Software/ Application Components:

S.No.	Functional Specifications	Compliance (Yes/No)	Remarks/ Deviation
1.	The deployment model of the software/application shall be a scalable client-server architecture built using well known operating systems and shall support multi-site, multiple-hierarchy deployments. The system shall support any combination of centralized management and slave servers to provide flexibility and scalability in the overall system Configuration.		
2.	The software/ application shall support unlimited numbers of servers, number of concurrent cameras for recording & monitoring and unlimited number of simultaneously connected users of various levels.		
3.	The software/application shall support various camera resolutions mentioned in the RFP document along with VGA; 4CIF; D1; 720P; 1.3MP; 1080P/2.1 MP; 5MP and all ONVIF S profile devices.		
4.	The software/ application shall be able to provide Standard Operating Procedures to operators in both English and Hindi Language.		
5.	The software/ application shall has the capability to define incidents &		

	cases and automatically transfer them for archival purpose.		
6.	The software/ application shall have an open architecture supporting various types of cameras mentioned in the RFP document i.e. thermal, IP cameras etc. and encoders from multiple manufacturers providing best-of-breed solutions ranging from low-cost, entry-level features to high-resolution, megapixel features.		
7.	The software/ application shall be capable to support Virtual machines created on physical server which shall be used as a server.		
8.	Resource Optimization: Multicasting Multi-streaming Video Compression (Shall Support H.264, H.265 and MPEG-4)		
9.	The software/ application shall provide DBMS support as per database licenses proposed by bidder. e.g. PostgreSQL/ MySQL /MS SQL Server/ Oracle 12c and mentioned in the development stack of this corrigendum.		
10.	The software/ application should be capable for Time synchronisation with Network Time Protocol		
11.	The software/ application shall utilize commercial-off-the shelf (COTS) computer workstations, servers, networking devices and storage equipment.		
12.	The software/ application shall support Network storage (NAS/SAN).		
13.	The software/ application shall support a central alarm/alert management and monitoring function,		
	providing an alarm/alert/ event queue where all incoming events are on display. The alarm queue shall provide, but not limited to, the following information: Alarm date and time Alarm status Current alarm condition Detector/input name/address Alarm location		

	Message priority Operator who is working on the alarm/event when it was acknowledged The alert handling framework provide following functionality: Able to handle alerts from video analytics applications, media servers and external devices. Able to receive alerts from external systems (such as external I/O) or software applications, e.g. Tress passing etc. Tracking of action taken on alert Escalation of alert, in case action not taken by the operator within a user-defined period. Alerts can also be distributed to registered recipient through various communication channels e.g. Radios, GSM communication, in case the usual internet connectivity is not available, internet etc. Able to send alerts through emails and SMS Any operator can redirect the alerts to any other operator, if required. Instant Video alerts on mobile phone The events are logged into a database with index to the video archive. Users can search events from the event log with simple query processing in real time.		
14.	Recording of all video transmitted to the software/ application shall be continuous, uninterrupted and unattended.		
15.	The software/ application shall continue to record video and audio at all times during the administration and configuration of any feature.		
16.	The software/ application shall offer the capability of video Motion detection recording.		
17.	The software/ application shall manage the video it has been configured to monitor. Loss of video signal shall be configured to annunciate on software client by an on screen visual indication alerting operators of video loss. Software shall provide information that whether the cameras are recording, and the status of servers, storage, networking components etc. Searching Mechanism: Simple database query processing tool to search through the health status.		

	Audit Trails: System shall maintain audit trails of activities of users in data-base.		
18.	The software/ application shall be able to view live Video and audio, recorded video and audio, and be able to configure the complete system.		
19.	The software/ application client (CCC Workstation and tablets & mobiles of field staff) software shall have the same functionality when connected remotely as it does when it is run locally on the same computer as the server software		
20.	All of the following should be supported- For Server -Microsoft Windows Server2008/2012/Latest Version or Linux For Client workstations-Microsoft Windows 7/8/latest version		
21.	The software/ application shall have the capability to run multiple client applications simultaneously on one workstation with multiple monitors. Up to 4 monitors shall be configured on a single workstation with one (1) client application running on each monitor.		
22.	The Software/ application shall provide an option to view 16:9 wide Video display panels.		
23.	The software/ application shall also allow an authorized user to view video through a web client interface. The web client interface shall allow authorized users to view live video, view recorded video, control pan-tilt-zoom (PTZ) cameras and activate triggers. The web client Interface shall allow connections to multiple locations' Servers simultaneously. The web client interface shall operate without requiring installation of any software.		
24.	All of the following should be supported- Internet Explorer 7 and later versions Firefox 2 and later Safari2 and later Chrome (latest version) The web client interface shall also connect with non-Java Script browsers		

	and shall be compliant with HTML4.0 (www.w3.org).		
25.	The server Software/application shall record and retrieve video, audio and alarm data and provide it to clients upon request.		
26.	The software/ application shall provide a purpose-built mobile application capable Of viewing multiple simultaneous live video streams and playing a recorded video stream. Application shall be provided for windows, IOS and Android operating systems. Mobile application to provide alerts to field staff as per requirement.		
27.	The server software/ application shall not decode video for the Purpose of repacking it for transmission to clients		
28.	The server software/ application shall record video based on metadata generated by an edge network device. The edge network devices shall generate the metadata and transmit it with the video stream to the server software/ application.		
29.	Advanced Video Search: Software shall have a feature to control object attributes (e.g. size, direction, color, speed) so that hours of video can be reviewed in minutes 1-click event selection indexes back to original video Bookmark and annotate objects for team collaboration		
30.	The software/ application license shall be perpetual and shall be for unlimited number of cameras to be used in the system during project period. In case of change or failure of camera/server, the software/ application licenses shall be re-issued and reinstalled as per requirement at site. Note: The unlimited channel licenses for software/ application shall be limited to the number of cameras installed and integrated in the surveillance and incident response system by RISL/GoR during the FMS period.		
31.	The server software/ application shall run as a service. The software/ application shall not require any application to be running in order to operate.		
32.	The software/application shall allow the use of maps. The maps will be accessible to users with the appropriate permission levels and display video sources and their status.		

33.	The software/ application shall allow control of PTZ Cameras to authorized users through mouse & joystick and can be used to maneuver a PTZ camera. When used on a non-PTZ camera, it shall allow the user to digitally		
	pan, tilt, and zoom on any video whether in live or recorded mode.		
34.	The software/ application shall have a feature for viewing Logical groups of cameras. This shall allow efficient viewing of cameras in a logical order.		
35.	The software/ application shall have a feature to organize the cameras into preset views. Views are preconfigured arrangements of the video panels so that they may be easily recalled later. A view can save the location of the video streams, audio streams, POS data, maps, and event views. These views shall be accessible in both live and recorded video modes.		
36.	The client software/ application shall be used to search for and playback recorded video, audio and events. All recorded video shall be played back and displayed in a synchronized multi- camera layout. It shall be possible to playback simultaneously 64 cameras on server of the surveillance system, with a selection of advanced navigation tools, including an intuitive timeline browser.		
37.	The software/ application shall support searching through recorded video based on time, date, video source, image region and have the results displayed as both a clickable timeline and a series of thumbnail images.		
38.	The software/ application shall allow search and playback Of audio in synchronization with video.		
39.	The software/ application shall provide the option of Exporting the file in the following formats: Stand alone Exe(*.exe)–includes an executable player with the video and audio data AVI File (*.avi)–a multi media container format MKV File(*.mkv)–a format to play HD video files./ WMV file(*.wmv) Software/ application shall allow the users to download multiple segments of the video from the archive to a video cart.		

40.	Software/ application shall be able to pre define configuration settings for the software like recording quality, excess to specific cameras etc. at one click or button.		
41.	Software/ application shall be capable to add a digital signature to each recorded video frame to ensure its authenticity and that video evidence can be admissible in court.		
42.	Video Analytics engine may be native to software/application engine for seamless functioning or shall have the possibility to integrate external Analytics systems.		
43.	The software/ application shall have the ability to configure each video inputs recording time on an hourly basis. This shall allow the user to schedule when to record On motion, when to record an event and when to not record.		
44.	The software/ application shall be able to send a Predefined email, sms, voice mails based on an event trigger. The software/ application shall also support SSL and TLS connections for transmissions of the mail.		
45.	The software/ application shall incorporate Intuitive map functions allowing for multi layered map environment. The map functionality shall allow for the interactive control of the complete surveillance system, at-a-glance overview of system integrity, and seamless drag-and-drop integration with video wall module option. The activation of the VMD or Camera disconnected alarm shall display the alarm location with animated camera's icon shown in the location map, and the pre- defined alarm documents.		
46.	The software/ application shall support high availability of recording servers. A failover option would provide standby support for recording servers with automatic synchronization to ensure maximum uptime and minimum		

	risk of lost data. Minimum required is N:1 OR N:N Redundancy. In case of Network Failover, the video should be able to locally store on the Camera, once the network is re-established the stored video should be able to be synchronized with the central storage system.		
	Case/ Incident Management Features		
47.	Software/ application shall have dedicated incident log screen which provide situation decision guidance support.		
48.	Software/ application should accommodate and manage different types of alerts.		
49.	Software/ Application should provide the following information related to various alerts: show the criticality of the alert Time the alert was created Description of the alert Camera which created the alert It will have provision to facilitate the operator to locate the Camera on GIS map Provision to close the alert		
50.	Software/ Application should zoom to the camera location on the map by selecting the alert from the Alert Register panel.		
51.	Software/ Application should be able to create incident manually for the alert.		
52.	Software/ Application should be able to generate unique incident id and tag the recorded video and image to the incident.		
53.	Software/ Application should show the created incident in the Incident Register panel. Application Incident Register Panel should show the following details of the incident: Incident ID with GPS Coordinates Camera Location Type of Alert		

	Alert Time Trigger option to initiate the SOP Status/ progress of the incident		
54.	Software/ Application should be able to generate SOP based on the type of alert and criticality in the monitor.		
55.	SOP should help the operator to dispatch the nearest field responder		
56.	Software/ Application should allow the field responder to perform the following actions through MDT :- Acknowledge the incident Update the status of the incident View the camera location on the map Navigation option provided to reach the incident location Able to view video/ image of the incident Able to view the live stream of the camera Update the ATR- Action Taken Report (Audio/ Video/ Image) for the incident		
57.	Software/ Application should allow the operator to generate Action Taken Report for the Incident to view the complete details of the incident		
58.	Software/ Application should be able to correlate the extracted message from the social media with existing other events and then should be able to initiate an SOP. This will enable operator to send messages to pre-defined (or defined based on SOP) list of personnel.		
59.	Software/ Application map should open up the submenu with the option for Create Incident, Live Stream, Recorded Stream, Image and Abandon Incident by clicking on the camera icon		
60.	Software/ Application Shall have Automatic incident creation options like pre-configured rules, on demand by operators or from scheduled triggers.		

61.	When working on an incident it should be possible to distribute task assignments manually or automatically to the relevant individuals or functional titles for collaborative management of incidents.		
62.	Software/ application shall have escalation mechanism and ability to configure the system to display an incident on a supervisor's terminal only when it is escalated beyond a predefined severity level.		
63.	Automatic sorting of incident on open incident list as per severity level and time		
64.	Capability to record/time-stamp defined procedural actions taken when managing the incident.		
65.	Software/ application shall dynamically update incident handling priority for each user and support incident load balancing as the situation evolves.		
66.	Incident Log in software shall support 'in-context' single-click easy navigation to all relevant maps, cameras, pre-alarm playbacks, sensors, attachments, and forms associated with the managed incident.		
67.	Software/ application shall provide the ability to view and edit multiple forms related to incidents and tasks to the authorized users only and maintain log of editing. The forms with the most updated information shall be saved and accessible at any time.		
68.	Software/ application shall have capability to search incidents based on similar characteristics of incidents.		
69.	Software/ application shall provide the ability to add incident comments, in either a predefined form format or free text format, and task comments.		
70.	Software/ application shall "pop-up" notifications when incidents are cre-		

	ated and when they are escalated. The pop-up notification colour shall reflect the severity of the incident. The popup shall be easily and conveniently linked to the relevant incident, preferably by a hyperlink. The popup notification should also be dismissible quickly and simply when determined by the operator.		
71.	Upon creation or updating of incidents, the software/application shall support playing of configurable sounds		
72.	Software/ application shall allow requiring a comment upon incident closure. Comments can be predefined quick comments and/or custom text. Closure comments shall be logged and be retrievable for post incident debriefing.		
73.	Software/ application shall have a Web API to provide developers with the resources they need to open/update/close incidents from external sources. The API shall also support the placement of the incident on map location.		
74.	Software/application shall be able to discover automatically sensors and cameras closest to the incident source location (GIS feature, Incident location, sensor location) - Impact Area Software/ application shall allow the operator to draw and update the Impact Area shape and size on the GIS map. Software/ application shall be able to calculate Impact Area contacts originating from a sensor related to an incident. Software/ application shall be able to use the contact information for communication purposes (short messages, emails, outbound calls).		
75.	Software/ application shall provide the ability to define and manage main and sub-incident relationships for cases where incidents are linked to each other		
76.	Provide integrated Mobile Application for Android, iOS and Windows for capturing real-time information from the field response team using Mobile-Standard Operating Procedure in online and offline mode.		

77.	Field Responder should be able to acknowledge the incident and provide real time updates from the incident site.		
78.	Field Responder should be able to view the recorded stream and image of the event		
79.	Field Responder should be able to view live stream of the camera		
80.	Field Responder should be able to send ATR or action taken for the event to the command and Control application		
	Standard Operating Procedures		
81.	SOP is a standard operating procedure which provides the step-by-step instruction in the shape of drop down menu to Command and Control Center operator on how to handle a particular incident in an organized manner.		
82.	Software shall provide SOP's in English and Hindi language		
83.	SOP tasks should serve as an instructional resource that allows operator to act without asking for guidance.		
84.	There shall be the provision to define various SOPs in Command and Control System such as alert and incident category specific SOPs, Location Specific SOPs		
85.	It shall have facility to define more than one SOP for the selected alert category or location		
86.	There shall be a provision to define multiple tasks under single SOP		
87.	The system shall select & present the appropriate SOP automatically based on predefined policies		
88.	Actions taken as part of SOP should be logged in audit trail with date time stamp and operator comments		

89.	SOP shall contain the lists of tasks to be performed by operator categorized under following headings ☐ Task: Task to be performed by the operator in the sequential order. ☐ Description: Task description. ☐ Comments: Space for operator to enter the comments. ☐ Action: Actions (like email, sms escalation) to be initiated by operator. ☐ Done: Indication by operator that the task is completed. ☐ User: User name of the operator for audit trail. ☐ Date & Time: date time of the action.		
	GIS Map Visualization Features		
90.	GoR shall provide ArcGIS (version 10.2.2 or higher) server and client licenses to be installed at five local CCC which is to be used by the CCC operators.		
91.	The bidder needs to undertake GIS application development work in ArcGIS software (both Server side and client side software) product-suite to be provided by GoR. The GIS Maps (Raster and Vector Data) shall follow projection system UTM / WGS 84 Datum. GIS Maps (Raster) shall be provided by GoR as Map-as-a-Service (in WMS – Web Map Services format) from the local GIS server to be installed at each City. Vector Data shall be provided by GoR as Data-as-a-service (in WFS – Web Feature Services / WCS – Web Coverage Services format) from the local GIS server to be installed at each City.		
92.	The bidder shall create layers mapping the boundaries of various respective offices of forest department and related stakeholder departments/entities, which will be the primary region of interest areas of the concerned entities.		
93.	The bidder shall map the latitude and longitudes of all installed cameras/ onsite setups only through GPS device to achieve the accuracy level of 1m RTM or better.		
94.	The following features and functionalities shall be developed: The GIS application shall display the installed camera locations (latitude and longitude) at a map scale of 1:1000 or higher to be provided by GoR b. The GIS application shall provide facilities for offline storage of maps		

	(raster and vector data) in a secured non- editable format which can be displayed on any mobile/ tablet device. The GIS application shall enable real time information dissemination (Geo-Spatial and Non Geo-Spatial data).		
	The GIS application shall be integrated with RAJDHARAA (State wide GIS application of the State of Rajasthan) and data shall get exchanged through Web Services e. The master data (Forest boundary layer, Admin boundary layer, Revenue Boundary layer, Road Network layer etc.) shall be provided by GoR The GIS application shall enable authorized users to edit / update the vector data presented within the defined layers. g. The GIS application shall enable operators to add points, polylines, polygons and other shapes to maps in order to identify / highlight locations related to any incident. h. The GIS application shall enable users to open up a new incident and directly associate it with a map location or to associate an already opened incident with a new map location. The system shall also be capable to receive an API call which will open up a new incident and automatically place it on the map using a map location passed via API / Web Services. The relevant map location shall be displayed on the map for as long as the incident is open. i. The GIS application shall allow administrators to define and draw zones/ sectors of arbitrary shapes and sizes. These zones/ sectors shall be used for triggering various activation rules. The GIS application shall be able to show/hide these zones as layers. j. The GIS application shall support searching of any geographical location on the map, via entry of ZIP code/ village name/ area name /landmark/ forest office details etc. k. The GIS application shall provide the ability to track movements and status of all location-based technologies (e.g. GPS, RFID, etc.). Software shall also support the on demand visual display of historical movement path.		
	The GIS application shall support the placement of Action map objects on GIS layers. Whenever these objects are clicked, the predefined action shall		

	take place m. The GIS Application shall support configuration and display of cameras Field of View (FOV) overlay. It shall be possible to display the FOV for a single camera or for all cameras at once. n. Users' (responders) map context menus shall include the capability to send other users messages, assign tasks and initiate phone calls through GIS application interface. It shall also be possible to view the tasks presently assigned to selected users. o. The GIS application shall provide standard functionalities like Point of Interest (PoI) Search Proximity Analysis /Buffer Analysis Route/ Navigation Support Distance Measurement Scenario Analysis/Trend Analysis, Heat Map Generation etc. Saving of multiple views for future analysis of incidents Drill down viewing of maps at various zoom level Alert generation for exceptions like vehicles crossing their defined boundary Incident reporting (Support for Geo-Tagged photograph, attribute data, Geo-spatial location etc.) Most frequently used tools / Point of Interest/ Area of Interest etc. which can be added as favourites		
	Asset Management Features with Fault Diagnostic Engine		
95.	software/ application shall provide the capability to define Assets of various types. Assets may be like: IT assets- Switch, Router, server, radios etc.		
	Non-IT Assets-Cameras, UPS, DG Sets, solar system, batteries etc. Surveillance system –Cameras, Sensors, UAV Video wall/ diplays etc.		
96.	Software/ application shall provide a pre-configured list of typical assets along with their pre-configured attributes . System administrators shall be able to modify/add attributes to already existing asset types and create new ones along with their set of attributes.		

97.	Asset module shall be fully integrated with the software events correlation/ workflows / rules engine and shall allow defining various triggers based on specific assets, asset types, asset groups and assets attributes		
98.	Software shall enable assets to be displayed on maps with their corresponding GIS locations like camera,, Forest Office (Naka/ Beat), Forest Vehicles etc. Asset statuses shall be reflected by different icons on the GIS map.		
99.	When a phone number is one of the asset attributes, it shall be possible to initiate a phone call to the asset directly from the context menu of its map icon representation. As it is camera icon for live feed etc.		
100.	It shall be possible to associate assets with other assets and sensors		
101.	The Software/ application shall provide an easy method of searching and locating assets.		
102.	The Software/ application shall support the correlation between two or more asset group elements for the sake of false alarms reduction.		
103.	The Software/ application shall be able to manually associate an incident to an asset and, vice versa, manually associate an asset to an existing incident.		
104.	The Software/ application shall support a tool to import external information in CSV format into an asset database. If a specific asset is not defined, the tool shall create it based on asset type information – asset types shall be configured.		
105.	The system/ software shall identify low-performing/ faulty devices.		
106.	After identification the system/ software shall generate automatic event/ ticket at helpdesk tool for the respective equipment.		
	External Communication Mechanism		
107.	Software/ application shall support built-in communication mechanisms		

	such as email, SMS communication, voice mails, phone calls, desktop notifications, mass notifications, and applicative messages to other system users.		
108.	Software/ application shall provide integrated dashboard with an easy to navigate user interface for managing profiles, groups, message templates and communications		
109.	Software/ application shall support on-demand or automatic outgoing call initiation.		
110.	All phone calling/ messaging capabilities shall also be available directly from the User/Asset GIS map icon representation.		
111.	Software/ application shall allow integration with external mass notification systems (MNS) using a 3rd party mass notification product.		
112.	Software/ application shall have graphical user interface and tools to create workflows and rule engine		
113.	The system shall support message tracing capabilities		
	Social Media Integration		
114.	The software/ application should provide a social listening without getting detected that can periodically query web sites, extract content from them, and store them in an easily retrievable way. Sources may include: • Twitter • Facebook • Google+ • Whatsapp(data for whatsapp shall be provided by GoR) • Google search • Scraping any publicly accessible website		
115.	Engine should have capability to be used to extract data using API or as general purpose web crawler.		
116.	Software/ application shall have to Integrate the incident management with social media like twitter, facebook, google, WhatsApp etc. In case the APIs provided by these websites change over FMS period, the SI shall update the crawler accordingly to provide the functionalities required the RFP.		

117.	Software/ application shall provide capability to analyze messages from social media during investigation		
118.	Software/ application shall extract messages and display it on dashboard. The software shall provide an active geo map to display the locations of harvested posts, tweets, and social media content.		
119.	Should be able to correlate the extracted message from the social media with existing other events and then should be able to initiate an SOP.		
120.	Should be able to identify the critical information and should be able to link it to an existing SOP or a new SOP should be started.		
121.	Should provide notifications to multiple agencies and departments (on mobile, emails) that a new intelligence has been gathered through open source/social media.		
122.	The solution should create a tag cloud which will give an easy view on number of messages coming from open source/social media across different categories.		
123.	Should be able to leverage and integrate with existing surveillance if any & new WS&APS software/application components, to provide an integrated surveillance solution at command and control room		
124.	Should be able to record feeds from selected collaborative cameras for selected time period. The SI shall be required to provide a customized mobile application to integrate smartphones and tablets such that		
	video can be uploaded by the citizens to the control room. Officers of Forest Department/ identified users shall use mobile devices to access and download videos from the data center in a secure manner. The system shall be sized to download and view the video by at least 10 concurrent mobile users over bandwidth of 128Kbps.		
	Analytics		
125.	The software/system should provide following functionalities but not limited to: • Intrusion Detection • Line Crossing • Region Entrance and existing Detection • Audio Exception Detection • Temperature exception • Fire detection etc.		

126.	Should be an open extensible framework for event/ incident based surveillance		
127.	Should be able to pinpoint an event in recorded video and retrieve the relevant video segment from stored video.		
128.	The software/ application should have features of image processing and poaching prevention algorithms and have capability to define new algorithms based on new identified cases/incidents in future..		
129.	Image processing/ Analysis should include but not limited to Species / ID Tagging for species, requires constant training of Recognition Models that self-improves detection capability with filtering, comparison across multiple images and match a template image across a table of images, segmentation and classification.		
130.	Critical Path Optimization: Optimizing critical path within core habitats is integral the wildlife surveillance across laying of camera traps & guard patrolling. CPO should be capable to optimally decide critical path, improving trapping rates & monitoring efficiency.		
131.	Anomaly detection in wildlife movement: Based on the camera trapping data/ alerts/ incidents, the software should be able to highlight change in wildlife movement like degree of activity/ formation of beats and should be able to correlate various factors like environmental change/ human interference etc.		
	should be able to highlight change in wildlife movement like degree of activity/ formation of beats and should be able to correlate various factors like environmental change/ human interference etc.		
132.	The software/ application shall have multi-level alert system based on severity of event/ incidents.		
133.	The software/ application shall be able to provide alerts through Email, SMS, POP alerts on dashboard.		
134.	The software/ application shall also maintain log of each alert. The log includes but not limited to acknowledgement details of the alert/ escalation/ forwarding/ action taken etc.		
135.	The system/ software shall provide alerts on dashboards		

	of various level (Local Control Room/ Dashboards of Various Designated Officers).		
136.	The software/ application shall be tightly integrated with other modules like incident/case management/ SOP management/ asset management etc.		
137.	The software/ application shall be able to visualize alerts through various coloured icons/messages/ sounds at GIS based dashboards for relevant events/incidents like Human Interference, Cattle Trafficking, Accidents, Vehicle detection etc.		
138.	The real-alerts generated by the analytics system/ by user should automatically be listed in the Command & Control Center application's list of events & incidents.		
	Should provide following functionalities for alerts: • Setting up and configuration of alerts by authorized user • Storing and retrieving alert definitions for reconfiguration • archival of alerts • Searching of alerts based on string and comments entered by user on alerts • Setting up of priority level for alerts • Automatic play of urgent priority alerts		
	Unified Reporting Engine		
139.	The software/ application shall have unified reporting engine to generate/ provide various reports based on the data provided by other components of the system.		
140.	The Software/application shall be able to provide transactional base reports on but not limited to incidents/cases/ alerts.		
141.	The software/application shall be able to provide information in various formats/ combination of attributes / graphs.		
142.	The reports would be data reports/ graphical reports/ geo spatial reports based on the level of users' requirements . For exa. Users at forest department, Jaipur shall be able to see incident reports of all locations / a DFO could see the reports of his/her respective division etc.		
143.	The reports shall be designed/ developed in hierarchic al manner. For exa. User can be able to view reports from summary to particular incident/ event/ alert/ case details		

144.	The system shall generate high level graphical reports / information which can be integrated with the GIS utilities developed by Govt. of Rajasthan for various stakeholders. The same shall be comparable/ configurable to compare with other reporting sources i.e. FMDSS or satellite images/ KMLs etc		
Help Desk Tool			
145.	The helpdesk tool shall have provision to register complaints/ faults identified/ notified by system/ user.		
146.	The tool shall be incorporated with all SLA timelines/ penalty provisions mentioned in the RFP.		
147.	The tool shall have SLA driven complaint escalation mechanism.		
148.	The tool shall be able to generate all O&M reports mentioned in the RFP.		
WS&APS Portal			
149.	Comprising all above mentioned features/modules/ components and features mentioned in SOW a single integrated web-based portal shall be designed with all the admin features, dashboard, configuration utilities, remote surveillance user interface etc. Main features will also be accessible from smartphones.		
150.	The various features/ components of the application/software shall be accessible based on the user level/ roles through their respective unified dashboard.		
Future Integration Support with Sensors and Cameras			
151.	The surveillance and incident response system should support integration of following as and when required : • Public Address System • Panic button • Gun shot sensor • Sensor for shattering of Glasses • Doppler radars • Temperature/ Thermal sensor/ cameras • Soil moisture Sensor • Air quality sensor • Flood water sensor • Laser Radar • Drones		

	• ONVIF Compliant Cameras (Fixed and PTZ etc.)		
	Others		
152.	All required licenses of each component of software/application shall be provided.		
153.	The OEM (in case of COTS product) and the SI is expected to study the requirement with DOITC/RISL and Forest Department and customize the software/ application product to suit their location specific requirements.		

Item: Video Management and Command & Control Center Suite: Phase-3 VMS and Command & Control Center Suite technical Specification:

Video Management System:

S.No.	Particulars	Compliance	Remarks/
		(Yes/No)	Deviation
1	Make:		
2	Model:		
3	Deployment Model: The VMS system shall be a scalable client–server architecture built using well known operating systems and shall support multi-site, multiple-hierarchy deployments		

4	Number of cameras per server: The VMS shall allow for minimum of 1000 cameras or other devices like Tablet, mobile etc. to be connected to each Recording Server and for an unlimited number of Recording Servers to be connected to a single VMS Management. Server. The system shall support any combination of centralized management and slave servers to provide flexibility and scalability in the overall system configuration.		
5	Support for Number of Servers: Unlimited		
6	Support for number of concurrent cameras for recording & monitoring : Unlimited		
7	Maximum number of simultaneously connected users: 500		
8	Camera Resolution Support: VMS software shall support various camera resolutions at VGA; 4CIF; D1; 720P; 1.3MP; 1080P/2.1 MP; 5MP and all ONVIF S profile devices		
9	Thermal Camera video resolution support: VMS should support various thermal resolutions such as: a. 640 × 480 or better effective to 307,200 pixels or better b. 640 × 512 or better effective to 327,680 pixels or better		
10	Language Support: VMS software shall be able to provide Standard Operating Procedures to operators in both English and Hindi Language		
11	Automatic Transfer of incidents: VMS has the capability to define incidents & cases and automatically transfer them for archival purpose.		
12	Open Architecture: The VMS software shall have an open architecture supporting IP cameras & sensors and encoders from multiple manufacturers providing best-of-breed solutions ranging from low-cost, entry-level features to high- resolution, megapixel features.		
13	Virtualization Support: Software shall be capable to support Virtual machines created on physical server which shall be used as a server.		
14	Resource Optimization: • Multicasting • Multi-streaming • Video Compression (Shall Support H.264, H.265 and MPEG-4) • Thermal		
15	User Level based Feature access: The VMS client software shall add and remove Features based on the permissions of the user and the licensed functionality • OS-independent, in-built user privilege management with multiple user category (not limited to Windows • dependent active directory framework) • 5 user levels and unlimited users		
16	DBMS Support: DBMS support to be provided as per database licenses proposed by bidder. e.g. PostgreSQL/ MySQL /MS SQL Server/ Oracle/ No SQL etc.		
17	Time synchronization: Time synchronization with Network Time Protocol		

18	Standard: ONVIF Profile S Compliant		
19	VMS Hardware: The VMS system shall utilize commercial-off-the shelf (COTS) computer workstations, servers, networking devices and storage equipment. VMS shall already support IP cameras and thermal sensors from at least fifty (50) major vendors. Bidders shall clearly list in their proposal the brands and models already integrated into VMS.		
20	Storage support: • Network storage (NAS/SAN) support • Server storage support		
21	Centralized Alarm Management: The VMS shall support a central alarm management and monitoring function, providing an alarm/event queue where all incoming events are on display. The alarm queue shall provide, but not limited to, the following information: • Alarm date and time • Alarm status • Current alarm condition • Detector/input name/address • Alarm location • Message priority • Operator who is working on the alarm/event when it was acknowledged The alert handling framework provide following functionality: • Able to handle alerts from video analytics applications, media servers and external devices. • Able to receive alerts from external systems (such as external I/O) or software applications, e.g. Tress passing etc. • Tracking of action taken on alert • Escalation of alert, in case action not taken by the operator within a user-defined period. • Alerts can also be distributed to registered recipient only using GSM communication, in case the usual internet connectivity is not available. • Able to send alerts through emails • Any operator can redirect the alerts to any other operator, if required. • Instant Video alerts on mobile phone • The events are logged into a database with index to the video archive. • Users can search events from the event log with simple query processing in real time.		

22	Unattended Recording: - Recording of all video transmitted to the VMS shall be continuous, uninterrupted and unattended. - The VMS shall continue to record video and audio at all times during the administration and configuration of any feature. - The VMS should have capability to restart recording from the onboard storage of edge equipment (camera/sensor), if interrupted.		
23	Video Streaming: The VMS system shall be able to stream video from tablets and mobile devices of authorized field staff to Command and control center		
24	Motion Detection: The VMS system shall offer the capability of video Motion detection recording. Software shall be able to store video prior to the detection of the motion with using the pre-alarm buffer feature of the camera.		
25	System Health Monitoring and Audit trails: The VMS system shall manage the video it has been configured to monitor. Loss of video signal shall be configured to annunciate on VMS client by an on screen visual indication alerting operators of video loss. Software shall provide information that whether the cameras are recording, and the status of servers, storage, networking components etc. Searching Mechanism: Simple database query processing tool to search through the health status. Audit Trails: System shall maintain audit trails of activities of users in database.		
26	Audio Support (Two Way Audio communication): The VMS client software shall be able to view live Video and audio, recorded video and audio, and be able to configure the complete system all from a single application. The Audio shall be broadcasted through loudspeakers from control room to the cameras connected to external speakers. Operator shall be able to select particular camera speaker to enable the public addressing.		
27	Fully featured Remote Client: The VMS client (CCC Workstation and tablets & mobiles of field staff) software shall have the same functionality when connected remotely as it does when it is run locally on the same computer as the server software.		
28	Operating System Support: All of the following should be supported- - For Server -Microsoft Windows Server 2012/Latest Version or Linux - For Client workstations-Microsoft Windows 2008/10/latest version		
29	Monitor support per client: The VMS software shall have the capability to run multiple client applications simultaneously on one workstation with multiple monitors including videowalls. Up to 4 monitors shall be configured on a single workstation with one (1) client application running on each monitor.		

30	Web Client Support (Support to WS&APS web application): The VMS shall also allow an authorized user to view video through a web client interface. The web client interface shall allow authorized users to view live video, view recorded video, control pan-tilt-zoom (PTZ) cameras and activate triggers. The web client interface shall allow connections to multiple VMS Servers simultaneously. The web client interface shall operate without requiring installation of any software.		
31	Browser Support: All of the following should be supported– 1. Internet Explorer 7 and later versions 2. Firefox 2 and later 3. Safari 2 and later 4. Chrome (latest version) 5. The web client interface shall also connect with nonJava Script browsers and shall be compliant with HTML4.0 & 5.0 (www.w3.org).		
32	Recording Retrieval: The VMS server software shall record and retrieve video, audio, alarm & incident data and provide it to the VMS clients upon request		
33	Mobile client: The VMS software shall provide a purpose-built mobile application capable of viewing multiple simultaneous live video streams and playing a recorded video stream. Application shall be provided for IOS and Android operating systems. Mobile application to provide alerts to field staff as per requirement. The mobile application must be compatible with latest IOS and android platforms available since 2018. The mobile application will be deep linked with any existing application of WS&APS/ FMDSS.		
34	Data safety: The VMS server shall not decode video for the Purpose of re-packing it for transmission to clients		
35	Metadata Support: The VMS server software shall record video based on metadata generated by an edge network device. The edge network devices shall generate the metadata and transmit it with the video stream to the VMS server software.		
36	Advanced Video Search: • Software shall have a feature to control object attributes (e.g. size, direction, color, speed) so that hours of video can be reviewed in minutes • 1-click event selection indexes back to original video • Bookmark and annotate objects for team collaboration		
37	Camera Licenses: The VMS license shall be perpetual and shall be for unlimited number of cameras to be used in the system. In case of change or failure of camera/server, the VMS Licenses shall be re-issued and re-installed as per requirement at site. Note: The unlimited channel licenses for VMS software shall be limited to the number of cameras installed and integrated in the surveillance and incident response system by RISL/GoR during the O&M period subject to license for minimum 1000 cameras in across Rajasthan.		

38	VMS server service: The VMS server software shall run as a service. The VMS shall not require any application to be running in order to operate.		
39	Map integration: The VMS shall allow the use of maps. The maps will be accessible to users with the appropriate permission levels and display video sources and their status. The VMS should be integrable with Rajdhara application of Rajasthan state.		
40	Wide screen support: The VMS shall provide an option to view 16:9 wide Video display panels.		
41	Digital PTZ: VMS software shall allow control of PTZ Cameras to authorized users through mouse & joystick and can be used to maneuver a PTZ camera. When used on a non-PTZ camera, it shall allow the user to digitally pan, tilt, and zoom on any video whether in live or recorded mode.		
42	Camera Grouping: The VMS software shall have a feature for viewing Logical groups of cameras. This shall allow efficient viewing of cameras in a logical order.		
43	Preset Viewing: The VMS software shall have a feature to organize the cameras into preset views. Views are preconfigured arrangements of the video panels so that they may be easily recalled later. A view can save the location of the video streams, audio streams, POS data, maps, and event views. These views shall be accessible in both live and recorded video modes.		
44	Video Play Back: The VMS client software shall be used to search for and playback recorded video, audio and events from VMS servers. All recorded video shall be played back and displayed in a synchronized multi-camera layout. It shall be possible to playback simultaneously at least 64 cameras on server of the surveillance system, with a selection of advanced navigation tools, including an intuitive timeline browser.		
45	Searching parameters: The VMS software shall support searching through recorded video based on time, date, video source, image region and have the results displayed as both a clickable timeline and a series of thumbnail images.		
46	Audio play back: The VMS software shall allow search and playback of audio in synchronization with video.		
47	Export: The VMS software shall provide the option of Exporting the file in the following formats: 1. Stand alone Exe(*.exe)–includes an executable player with the video and audio data 2. AVI File (*.avi)–a multi media container format 3. MKV File(*.mkv)–a format to play HD video files./ WMV file(*.wmv) VMS shall allow the users to download multiple segments of the video from the archive to a video cart.		

48	Pre-defined VMS Configuration: Software shall be able to pre define configuration settings for VMS like recording quality, excess to specific cameras etc. at one click or button.		
49	Video Tamper Marking: Add a digital signature to each recorded video frame to ensure its authenticity and that video evidence can be admissible in court.		
50	Integrated Video Analytics: Video Analytics engine may be native to VMS engine for seamless functioning or shall have the possibility to integrate external Analytics systems.		
51	Recording Triggers: The VMS software shall have the ability to configure each video inputs recording time on an hourly basis. This shall allow the user to schedule when to record On motion, when to record an event and when to not record.		
52	Email Trigger: The VMS software shall be able to send a Predefined email based on an event trigger. The VMS software shall also support SSL and TLS connections for transmissions of the mail.		
53	Map Function: The Video Management System shall incorporate Intuitive map functions allowing for multi layered map environment. The map functionality shall allow for the interactive control of the complete surveillance system, at-a-glance overview of system integrity, and seamless drag-and-drop integration with video wall module option. The activation of the VMD or Camera disconnected alarm shall display the alarm location with animated camera's icon shown in the location map, and the pre- defined alarm documents.		
54	Redundancy: The Video Management System shall support high availability of recording servers. A failover option would provide standby support for recording servers with automatic synchronization to ensure maximum uptime and minimum risk of lost data. Minimum required is N:1 OR N:N Redundancy. In case of Network Failover, the video should be able to locally store on the Camera, once the network is re-established the stored video should be able to synchronize with the central storage system.		
55	Localization & Customization: The OEM is expected to study the requirement with RISL/ Forest Department and customize the VMS software product to suit their requirements. Wherever required integration with 3rd Party Applications such as CCC, WS&APS, FMDSS, SSO etc. as per IT architecture of Rajasthan state will be done seamlessly.		
56	The proposed solution should be designed and developed considering the standards & norms defined by MEITY, GIGW, WCAG & DOIT for services, meta data, configurable & modular customizable components etc		
57	OEM's service center or OEM's authorized service center in India.		
58	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of installation with necessary updates, upgrades and patches		

Local Command & Control Suite:

S.No.	Particulars	Compliance (Yes/No)	Remarks/ Deviation
1	Make:		
2	Model:		
	Case/ Incident Management Features		
3	Software/ application shall have dedicated incident log screen which provide situation decision guidance support.		
4	Software/ application should accommodate and manage different types of alerts from VMS/ Edge sensors/ AI/ML components of existing application of WS&APS or other application		
5	Software/ Application should provide the following information related to various alerts: show the criticality of the alert Time the alert was create Description of the alert Camera which created the alert It will have provision to facilitate the operator to locate the Camera on GIS map Provision to close the alert		
6	Software/ Application should zoom to the camera location on the map by selecting the alert from the Alert Register panel.		
7	Software/ Application should be able to create incident manually for the alert.		
8	Software/ Application should be able to generate unique incident id and tag the recorded video and image to the incident.		
9	Software/ Application should show the created incident in the Incident Register panel. Application Incident Register Panel should show the following details of the incident: Incident ID with GPS Coordinates Camera Location Type of Alert Alert Time Trigger option to initiate the SOP Status/ progress of the incident		
10	Software/ Application should be able to generate SOP based on the type of alert and criticality in the monitor.		
11	SOP should help the operator to dispatch the nearest field responder		
12	Software/ Application should allow the field responder to perform the following actions through MDT:- Acknowledge the incident Update the status of the incident View the camera location on the map Navigation option provided to reach the incident location Able to view video/ image of the incident Able to view the live stream of the camera Update the ATR- Action Taken Report (Audio/ Video/ Image) for the incident		
13	Software/ Application should allow the operator to generate Action Taken Report for the Incident to view the complete details of the incident		

14	Software/ Application should be able to correlate the extracted message from the social media with existing other events and then should be able to initiate an SOP. This will enable operator to send messages to pre-defined (or defined based on SOP) list of personnel.		
15	Software/ Application map should open up the submenu with the option for Create Incident, Live Stream, Recorded Stream, Image and Abandon Incident by clicking on the camera Icon		
16	Software/ Application Shall have Automatic incident creation options like pre-configured rules, on demand by operators or from scheduled triggers.		
17	When working on an incident it should be possible to distribute task assignments manually or automatically to the relevant individuals or functional titles for collaborative management of incidents.		
18	Software/ application shall have escalation mechanism and ability to configure the system to display an incident on a supervisor's terminal only when it is escalated beyond a predefined severity level.		
19	Automatic sorting of incident on open incident list as per severity level and time		
20	Capability to record/time-stamp defined procedural actions taken when managing the incident.		
21	Software/ application shall dynamically update incident handling priority for each user and support incident load balancing as the situation evolves.		
22	Incident Log in software shall support 'in-context' single-click easy navigation to all relevant maps, cameras, pre-alarm playbacks, sensors, attachments, and forms associated with the managed incident.		
23	Software/ application shall provide the ability to view and edit multiple forms related to incidents and tasks to the authorized users only and maintain log of editing. The forms with the most updated information shall be saved and accessible at any time.		
24	Software/ application shall have capability to search incidents based on similar characteristics of incidents.		
25	Software/ application shall provide the ability to add incident comments, in either a predefined form format or free text format, and task comments.		
26	Software/ application shall "pop-up" notifications when incidents are created and when they are escalated. The pop-up notification colour shall reflect the severity of the incident. The popup shall be easily and conveniently linked to the relevant incident, preferably by a hyperlink. The popup notification should also be dismissible quickly and simply when determined by the operator.		
27	Upon creation or updating of incidents, the software/ application shall support playing of configurable sounds		
28	Software/ application shall allow requiring a comment upon incident closure. Comments can be predefined quick comments and/or custom text. Closure comments shall be logged and be retrievable for post incident debriefing.		
29	Software/ application shall have a Web API to provide developers with the resources they need to open/update/close incidents from external sources. The API shall also support the placement of the incident on map location.		

30	Software/application shall be able to discover automatically sensors and cameras closest to the incident source location (GIS feature, Incident location, sensor location) - Impact Area Software/ application shall allow the operator to draw and update the Impact Area shape and size on the GIS map. Software/ application shall be able to calculate Impact Area contacts originating from a sensor related to an incident. Software/ application shall be able to use the contact information for communication purposes (short messages, emails, outbound calls).		
31	Software/ application shall provide the ability to define and manage main and sub-incident relationships for cases where incidents are linked to each other		
32	Provide integrated Mobile Application for Android & iOS for capturing real-time information from the field response team using Mobile-Standard Operating Procedure in online and offline mode which will be dep linked with the mobile application of existing WS&APS.		
33	Field Responder should be able to acknowledge the incident and provide real time updates from the incident site.		
34	Field Responder should be able to view the recorded stream and image of the event		
35	Field Responder should be able to view live stream of the camera		
36	Field Responder should be able to send ATR or action taken for the event to the command and Control application		
37	Standard Operating Procedures		
38	SOP is a standard operating procedure which provides the step-by-step instruction in the shape of drop down menu to Command and Control Center operator on how to handle a particular incident in an organized manner.		
39	Software shall provide SOP's in English and Hindi language		
40	SOP tasks should serve as an instructional resource that allows operator to act without asking for guidance.		
41	There shall be the provision to define various SOPs in Command and Control System such as alert and incident category specific SOPs, Location Specific SOPs		
42	It shall have facility to define more than one SOP for the selected alert category or location		
43	There shall be a provision to define multiple tasks under single SOP		
44	The system shall select & present the appropriate SOP automatically based on predefined policies		
45	Actions taken as part of SOP should be logged in audit trail with date time stamp and operator comments		
46	SOP shall contain the lists of tasks to be performed by operator categorized under following headings Task: Task to be performed by the operator in the sequential order. Description: Task description. Comments: Space for operator to enter the comments. Action: Actions (like email, sms escalation) to be initiated by operator. Done: Indication by operator that the task is completed. User: User name of the operator for audit trail. Date & Time: date time of the action.		

47	GIS Map Visualization Features		
48	GoR shall provide ArcGIS (version 10.2.2 or higher) server and client licenses to be installed at five local CCC which is to be used by the CCC operators.		
49	The bidder needs to undertake GIS application development work in ArcGIS software (both Server side and client side software) product-suite to be provided by GoR. The GIS Maps (Raster and Vector Data) shall follow projection system UTM / WGS 84 Datum. GIS Maps (Raster) shall be provided by GoR as Map-as-a-Service (in WMS – Web Map Services format) from the local GIS server to be installed at each City. Vector Data shall be provided by GoR as Data-as-a-service (in WFS – Web Feature Services / WCS – Web Coverage Services format) from the local GIS server to be installed at each City.		
50	The bidder shall create layers mapping the boundaries of various respective offices of forest department and related stakeholder departments/entities, which will be the primary region of interest areas of the concerned entities.		
51	The bidder shall map the latitude and longitudes of all installed cameras/ onsite setups only through GPS device to achieve the accuracy level of 1m RTM or better.		
52	The following features and functionalities shall be developed: a. The GIS application shall display the installed camera locations (latitude and longitude) at a map scale of 1:1000 or higher to be provided by GoR b. The GIS application shall provide facilities for offline storage of maps (raster and vector data) in a secured non-editable format which can be displayed on any mobile/ tablet device. c. The GIS application shall enable real time information dissemination (Geo-Spatial and Non Geo-Spatial data) d. The GIS application shall be integrated with RAJDHARAA (State wide GIS application of the State of Rajasthan) and data shall get exchanged through Web Services e. The master data (Forest boundary layer, Admin boundary layer, Revenue Boundary layer, Road Network layer etc.) shall be provided by GoR f. The GIS application shall enable authorized users to edit / update the vector data presented within the defined layers. g. The GIS application shall enable operators to add points, polylines, polygons and other shapes to maps in order to identify / highlight locations related to any incident. h. The GIS application shall enable users to open up a new incident and directly associate it with a map location or to associate an already opened incident with a new map location. The system shall also be capable to receive an API call which will open up a new incident and automatically place it on the map using a map location passed via API / Web Services. The relevant map location shall be displayed on the map for as long as the incident is open. i. The GIS application shall allow administrators to define and draw zones/ sectors of arbitrary shapes and sizes. These zones/ sectors shall be used for triggering various activation rules. The GIS application shall be able to show/hide these zones as layers. j. The GIS application shall support searching of any geographical location on the map, via entry of ZIP code/ village name/ area name /landmark/ forest office details etc. k. The GIS application shall provide the ability to track movements		

	and status of all location-based technologies (e.g. GPS, RFID, etc.). Software shall also support the on demand visual display of historical movement path. Alert generation for exceptions like vehicles crossing their defined boundary l. The GIS application shall support the placement of Action map objects on GIS layers. Whenever these objects are clicked, the predefined action shall take place m. The GIS Application shall support configuration and display of cameras Field of View (FOV) overlay. It shall be possible to display the FOV for a single camera or for all cameras at once. n. Users' (responders) map context menus shall include the capability to send other users messages, assign tasks and initiate phone calls through GIS application interface. It shall also be possible to view the tasks presently assigned to selected users. o. The GIS application shall provide standard functionalities like - Point of Interest (PoI) Search - Proximity Analysis /Buffer Analysis - Route/ Navigation Support - Distance Measurement - Scenario Analysis/Trend Analysis, Heat Map Generation etc. - Saving of multiple views for future analysis of incidents - Drill down viewing of maps at various zoom level - Alert generation for exceptions like vehicles crossing their defined boundary - Incident reporting (Support for Geo-Tagged photograph, attribute data, Geo-spatial location etc.) - Most frequently used tools / Point of Interest/ Area of Interest etc. which can be added as favourites		
53	Asset Management Features with Fault Diagnostic Engine		
54	The Software/ application shall provide the capability to define Assets of various types. Assets may be like: IT assets- Switch, Router, server, radios etc. Non-IT Assets-Cameras, UPS, DG Sets, solar system, batteries etc.Surveillance system –Cameras, Sensors, UAV Video wall/ displays etc.		
55	Software/ application shall provide a pre-configured list of typical assets along with their pre-configured attributes. System administrators shall be able to modify/add attributes to already existing asset types and create new ones along with their set of attributes.		
56	Asset module shall be fully integrated with the software events correlation/ workflows / rules engine and shall allow defining various triggers based on specific assets, asset types, asset groups and assets attributes		
57	Software shall enable assets to be displayed on maps with their corresponding GIS locations like camera, , Forest Office (Naka/ Beat), Forest Vehicles etc. Asset statuses shall be reflected by different icons on the GIS map.		
58	When a phone number is one of the asset attributes, it shall be possible to initiate a phone call to the asset directly from the context menu of its map icon representation. As it is camera icon for live feed etc.		
59	It shall be possible to associate assets with other assets and sensors		
60	The Software/ application shall provide an easy method of searching and locating assets.		

61	The Software/ application shall support the correlation between two or more asset group elements for the sake of false alarms reduction.		
62	The Software/ application shall be able to manually associate an incident to an asset and, vice versa, manually associate an asset to an existing incident.		
63	The Software/ application shall support a tool to import external information in CSV format into an asset database. If a specific asset is not defined, the tool shall create it based on asset type information – asset types shall be preconfigured.		
64	The system/ software shall identify low-performing/ faulty devices.		
65	After identification the system/ software shall generate automatic event/ ticket at helpdesk tool for the respective equipment.		
66	External Communication Mechanism		
67	Software/ application shall support built-in communication mechanisms such as email, SMS communication, voice mails, phone calls, desktop notifications, mass notifications, and applicative messages to other system users.		
68	Software/ application shall provide integrated dashboard with an easy to navigate user interface for managing profiles, groups, message templates and communications		
69	Software/ application shall support on-demand or automatic outgoing call initiation.		
70	All phone calling/ messaging capabilities shall also be available directly from the User/Asset GIS map icon representation.		
71	Software/ application shall allow integration with external mass notification systems (MNS) using a 3rd party mass notification product.		
72	Software/ application shall have graphical user interface and tools to create workflows and rule engine		
73	The system shall support message tracing capabilities		
74	Analytics		
75	The software/system should provide following functionalities but not limited to: •Intrusion Detection •Line Crossing • Region Entrance and existing Detection •Audio Exception Detection •Temperature exception •Fire detection etc.		
76	Should be an open extensible framework for event/ incident based surveillance		
77	Should be able to pinpoint an event in recorded video and retrieve the relevant video segment from stored video.		
78	The software/ application should have features of image processing and poaching prevention algorithms and have capability to define new algorithms based on new identified cases/incidents in future.		
	Centralised Multi-level Alert System		
79	The software/ application shall have multi-level alert system based on severity of event/ incidents.		
80	The software/ application shall be able to provide alerts through Email, SMS, POP alerts on dashboard.		
81	The software/ application shall also maintain log of each alert. The log includes but not limited to acknowledgement details of the alert/ escalation/ forwarding/ action taken etc.		

82	The system/ software shall provide alerts on dashboards of various level (Local Control Room/ Dashboards of Various Designated Officers).		
83	The software/ application shall be tightly integrated with other modules like incident/case management/ SOP management/ asset management etc.		
84	The software/ application shall be able to visualize alerts through various coloured icons/messages/ sounds at GIS based dashboards for relevant events/incidents like Human Interference, Cattle Trafficking, Accidents, Vehicle detection etc.		
85	The real-alerts generated by the analytics system/ by user should automatically be listed in the Command & Control Center application's list of events & incidents.		
86	Should provide following functionalities for alerts: Setting up and configuration of alerts by authorized user Storing and retrieving alert definitions for reconfiguration archival of alerts Searching of alerts based on string and comments entered by user on alerts Setting up of priority level for alerts Automatic play of urgent priority alerts		
	WS&APS 2.0 Portal		
87	The WS&APS 2.0 portal and mobile application (IOS & Android) will be developed as web client comprising all above mentioned features/ modules/ components and features mentioned in SOW. The complete VMS & CCC suite along with hardware monitoring application, UAV etc. will be integrated with web-based WS&APS 2.0 portal and mobile application with all the admin features, dashboard, configuration utilities, remote surveillance user interface etc. Main features will also be accessible from smartphones.		
88	The various features/ components of the application/software shall be accessible based on the user level/ roles through their respective unified dashboard.		
89	Future Integration Support with Sensors and Cameras The surveillance and incident response system should support integration of following as and when required: •Public Address System •Panic button •Gun shot sensor • Sensor for shattering of Glasses •Doppler radars • Temperature/ Thermal sensor/ cameras •Soil moisture Sensor •Air quality sensor •Flood water sensor •Laser Radar •Drones • ONVIF Compliant Cameras (Fixed and PTZ etc.) others		
90	All required licenses of each component of software/application shall be provided.		

91	Localization & Customization: The OEM is expected to study the requirement with RISL/Forest Department and customize the CCC software product to suit their requirements along with integration with WS&APS applications and VMS suite. Wherever required integration with 3rd Party Applications such as VMS, WS&APS, FMDSS, SSO etc. as per IT architecture of Rajasthan state will be done seamlessly.		
92	The proposed CCC suite should be designed and developed considering the standards & norms defined by MEITY, GIGW, WCAG & DOIT for services, meta data, configurable & modular customizable components etc		
93	OEM's service center or OEM's authorized service center in India.		
94	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of installation with necessary updates, upgrades and patches		

Item: Hardwar/Electrical Monitoring System:

S.No.	Particulars	Compliance	Remarks/
		(Yes/No)	Deviation
1	Make:		
2	Model:		
	Hardware Appliances		
3	All IT Equipment (Server/Storage) required to deploy and operate will be under Vendor's scope. No Virtual/Physical IT environment shall be provisioned for the Centralised monitoring software. purpose of deploying		
	Centralized monitoring		
4	Vendor neutral centralized monitoring of distributed IT infrastructures such as UPS, cooling unit, etc via SNMP v1,v3, modbus TCP or physical server via Redfish protocols.		
5	Accessible anywhere via web client without the need of VPN		
6	Provides map view based on geographical locations of units, making it easier for user to quickly identify alarm coming from devices across various locations		
7	Customizable dashboards: ability to create own designs for overviews based on maps, types, sensors, alarms, locations.		
	Notifications		
8	Alarm notification via app push, and/or email notification		
	Device Search & Data Collection		
9	Search functionality: ability to search for monitored devices by name, location or type.		
	Scalability		
10	Scalable with no limit on number of devices to be centrally monitored, however a lot should cover all hardware/ electrical equipment of a Local CCC.		
	Security		
11	User management: ability to define users as administrators or viewer with different management rights.		

12	Recommendations for improving the security of the system by in-sights to updating old firmware, changing outdated hardware and configuring vulnerable configurations.		
13	Secure outbound connections, validated using industry standard 2048 bit RSA certificate and data is encrypted in transit using 256 bit AES encryption		
14	Multi factor authentication to secure user login, via app authentication, 3rd party authenticator such as Duo or Google Authenticator, or as a last resort, short lived one time SMS token		
	Device Configuration		
15	Ability to mass configure devices as well as rolled out devices firmware upgrade for devices manufactured by vendor. This feature does not apply to Multi-Vendor devices		
	Assessment		
16	Recommendations for improving the battery lifetime, providing actionable recommendations for how to prolong the lifetime of batteries in the system. Hereby saving resources.		
17	Provides insights into UPS's health by providing benchmarking, UPS assessment and device security assessment for vendor supplied devices.		
18	UPS assessment shall provide scoring of the vendor supplied UPS based on its battery temperature, UPS age, battery age as well as battery health projection		
19	The Assessments page shall provide active and recently solved alarms indicating devices susceptible to failure or near end of life.		
20	The Assessments page shall provide a trend analyze on the daily average load of UPS to help predict future load and understand UPS capacity usage.		
	Benchmarks		
21	The Inventory page shall allow the user to benchmark devices against similar devices monitored by this software. Benchmarking shall allow the user to compare device battery temperature, device battery age, device age, and UPS total load with all comparable devices.		
	Mobile App (IOS & Android)		
22	Centralized Management software shall be available in mobile application for Android and iOS.		
23	The app shall allow the user to receive push notifications for critical alarms.		
24	The app shall allow the user to view sensor values and alarms from the connected devices.		
25	The app shall the allow user to view a Device Groups option with a hierarchical list of device groups and locations, device status, and device and sensor data; and an Active Alarms option to view a chronological list of alarms and alarm details.		
26	The app shall allow the user to view and select devices monitored in the All Devices group, or in a specific location, and access options to view device details, active alarms reported by the device, and a list of device sensors		
	Integrations		

27	Provides REST api interface , secured by token, to allow 3rd party to securely access and consume alarms and devices sensor data		
28	The software & app will be integrated (deep linked) with WS&APS portal & app.		
	Others		
29	All required licenses of each component of software/application shall be provided.		
30	Localization & Customization:The OEM is expected to study the requirement with RISL/Forest Department and customize the software product to suit their requirements along with integration with WS&APS portal and mobile app as per IT architecture of Rajasthan.		
31	OEM's service center or OEM's authorized service center in India.		
32	Warranty: 5-Year comprehensive on-site OEM Warranty from the date of installation with necessary updates, upgrades and patches		