GUJARAT STATE DISASTER MANAGEMENT AUTHORITY (GSDMA)

REQUEST FOR PROPOSAL (RFP)

FOR

Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)

E- TENDER NUMBER: GIPL/GSDMA/CCTV/20-21/07

From

Guj Info Petro Limited
2ND Floor, Block No: 15, Udyog Bhavan,
Sector - 11, Gandhinagar – 382 011.
E-mail: projects@gipl.net

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SECTION A - SCHEDULE TENDER NOTICE:

E- TENDER NUMBER: GIPL/GSDMA/CCTV/20-21/07

Item Description	Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)
Location details	As per Section M annexure A.
Tender Fee (Non Refundable)	**Rs. 15,000/- + 18% GST = Rs. 17,700 (Rupees Seventeen Thousand Seven Hundred only)** in the form of Demand Draft (DD) issued by Nationalized bank including IDBI Bank / Private Banks – Axis Bank, HDFC Bank & ICICI bank only in favor of "Guj Info Petro Limited" payable at Gandhinagar.
GIPL's GST Number	24AABCG6234E1Z1
Contract Period	3 Months (Execution period) + 2 Year on-site warranty + 2 Years CAMC (Optional)
Earnest Money Deposit (EMD)	**Rs. 15,00,000/- (Rupees Fifteen Lacs only)** in the form of Demand Draft (DD) or in form of Bank Guarantee issued by nationalized bank including IDBI Bank / Private Banks – Axis Bank, HDFC Bank & ICICI bank and other banks which is specified in Finance Department, GR. No: EMD/10/2018/18/DMO dated 16/04/2018 in favor of "Guj Info Petro Limited" payable at Gandhinagar.
E – Tendering website details:	https://gipl.nprocure.com
Online Tender Floating Date	31/07/2020
Online Pre-Bid Meeting	11/08/2020 from 11.30 to 12.30 Hrs. at https://gipl.nprocure.com
Last Date & Time of online submission of Bid.	24/08/2020 up to 18:00 Hrs.
Last Date & Time of physical Submission of Tender Fee, EMD & all necessary tender documents by Regd. / Speed Post / Hand Delivery only	From 25/08/2020 onwards up to 17:00 Hrs. on 27/08/2020 at GIPL, Gandhinagar.
Date & Time for opening of Technical Bid	27/08/2020 at 17:15 Hrs. at GIPL, Gandhinagar.
Date & Time for opening of Commercial bid	Will be intimated later to the Technically qualified bidders.
Bid Validity	180 days from the date of bid submission.

Required number of offers	**Technical offer** ❑ Technical bid and other forms – online. ❑ Technical bid (Physical) ➢ 1 Original & 1 Duplicate ➢ Tender Fee & EMD (Original only). **Commercial offer** ❑ Online Submission only on website https://gipl.nprocure.com
Bid Evaluation Criteria (Selection Method)	**Least Cost Based Selection (LCBS) - L1**
Joint venture/consortium/sub-contracts	Unincorporated Joint venture / consortium / sub-contracts are not allowed and work order / work completion certificates of such joint venture / consortium / sub-contracts will not be considered.
Note: A. GIPL/CLIENT reserves its right to reject any or all tenders or split the job between more than one bidder without assigning any reason thereof. B. GIPL will evaluate and compare the bids determined to be substantially responsive. It is GIPL's intent to select the Tender that is most advantageous to CLIENT and each Tender will be evaluated using the criteria outlined in this RFP document.	

SECTION B - DEFINITIONS:

Request for Proposal (RFP) – Formal procurement document in which a service or need is identified with specific method to achieve it.

Addendum – An addendum is issued when supplemental information has been added to the RFP since its original posting.

Corrigendum / Amendment – An amendment / corrigendum is issued when information in the RFP has been changed since its original posting.

CLIENT/Purchaser/Owner means Gujarat State Disaster Management Authority (GSDMA) shall include their legal representatives, successors and assigns.

GIPL - Guj Info Petro Limited, a consultant appointed for the project by CLIENT.

GoG - Government of Gujarat.

Tender / RFP / Project – E-Tender (No: GIPL/GSDMA/CCTV/20-21/07) issued for "Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)."

Bidder – A company registered in India submitting a proposal in order to attain a contract CLIENT.

Bid / Proposal – A formal offer submitted by bidder in response to this RFP.

Successful bidder – A company whose proposal has been accepted by CLIENT and is awarded a fully executed, written contract.

Letter of Intent – The letter issued by CLIENT to the successful bidder intimating the acceptance of bidder's bid and intimating desire of the CLIENT to award work order to that bidder.

Service-level Agreement (SLA) – A service contract where the level of service is formally defined between CLIENT & the successful bidder.

SOR – Schedule of Rates

Change in Tax Law - shall mean any of the following events, which become effective after the date for submission of the price bid for the Contract.

- Enactment of any new tax law in India;
- Modification or repeal of any taxes in India.

- any change in the interpretation or enforcement of any tax laws by Government of India or State Government or local authority via issuance of circulars / clarifications by Governmental Authority
- increase or decrease in the rate of taxes in force on the date of the bid submission;
- Change in the basis of computation of taxes in force on the date of the bid submission.

Agreement or Contract means the document signed between CLIENT and the Successful bidder and it is binding for both the parties to all terms and conditions contained herein and as modified / amended from time to time in writing by the parties hereto.

Work Order means an authorization letter issued by the CLIENT for engaging the successful bidder for implementation of the Project within defined stipulated timeline.

OEM means Original Equipment Manufacturer Company that is incorporated in India or abroad, who has management control over the manufacturing / production process, Quality Assurance, Procurement of Raw materials / manufacturing process, inputs, marketing and warranty services of the resultant products of at least one manufacturing facility / factory where the manufacturing of equipment, related accessories as required for the project etc. is carried out.

Rates / Prices means prices of supply, installation, testing, commissioning & maintenance of equipment and services quoted by the bidder in the Commercial bid submitted and/or mentioned in the Contract.

Contract Price means total price payable (inclusive taxes and duties) under the contract including any addition/deductions made thereafter.

Authorized 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.

SD - Security Deposit.

DAY- a calendar day.

MONTH - the period of one month according to the calendar year commencing with any day of the month.

MAN-DAY - the period of deployment of Contractor's one person for eight hours working during a calendar DAY for the services.

MAN-MONTH - the period of 30/31 MAN-DAYS.

SECTION C - INVITATION FOR BIDS & INSTRUCTIONS TO BIDDERS:

1. Invitation for bids

This invitation for bids is for "Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)". At the time of submission of the bid document, the bidder has to submit the bid amount as a non-refundable fee of **Rs. 15,000/- + 18% GST = Rs. 17,700 (Rupees Seventeen Thousand Seven Hundred only)** in the form of Demand draft & refundable EMD of **Rs. 15,00,000/- (Rupees Fifteen Lacs only)** in the form of either Demand Draft (DD) or Bank Guarantee issued by nationalized bank including IDBI Bank / Private Banks – Axis Bank, HDFC Bank & ICICI bank and other banks only specified in the Finance Department's GR. No: EMD/10/2018/18/DMO dated 16/04/2018 in favor of "Guj Info Petro Limited" payable at Gandhinagar. In case of EMD submitted in the form of Bank Guarantee (BG), such BG shall have minimum validity of 240 days from the bid submission date plus 90 days of the claim period. Failure to furnish the above mentioned Tender fees as well as EMD would result in rejection of the bid.

1.1 Reserve Rights of GIPL/CLIENT

GIPL/CLIENT may for any reasons; add / modify / amend / relax / cancel any terms / conditions / criteria of the tender document during any stage of the tendering process and such amendments shall be binding on all the bidders. GIPL/CLIENT at its own discretion reserves the right to reject any Proposal, modify or scrap the whole tender at any time, without assigning any reason or incurring any liability. To assist in the evaluation, comparison and an examination of bids, GIPL/CLIENT, may, at its sole discretion, ask the bidder for a clarification of its bid including breakdown of unit rates etc. The request for clarification and the response shall be in writing. If the response to the clarification is not received within the prescribed timeframe, GIPL/CLIENT reserves the right to make own reasonable assumptions and take appropriate decision. GIPL/CLIENT reserves the right to modify / change the dates of Bid opening / submission / technical presentation at its own discretion and these changes shall be binding on the bidders.

1.2 Due Diligence

The Bidder is expected to examine all instructions, forms, terms and specifications in the bidding document. The bid must be precise, complete and in the prescribed format as per the requirement of the bid document. Failure to furnish all information required by the bidding document or submission of a bid not responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of the bid. GIPL/CLIENT shall at its sole discretion be entitled to determine the adequacy / sufficiency of the information provided by the Bidder.

1.3 Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid. GIPL/CLIENT will in no case be held responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

1.4 Online Pre-Bid meeting

The online pre-bid meeting should start sharp as scheduled on website https://gipl.nprocure.com in the pre-bid chat of the concerned tender. All bidders are requested to post their queries related to tender online only. **The queries received during the online session will be addressed only & no queries before or after the pre-bid meeting session will be entertained.**

2. Guidelines / Preparations of Bids

2.1 Language of bid

The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and GIPL/CLIENT shall be written in English language only.

2.2 Qualification of the Bidder

Pre – qualification criteria — bidder has to upload all documents only on E-Tendering website https://gipl.nprocure.com and submit all supporting documents in a separate envelop along with Tender fee and EMD clearly describing **"E-Tender No: GIPL/GSDMA/CCTV/20-21/07 Technical Bid"** at the Office of Guj Info Petro Limited, 2ND Floor, Block No: 15, Udyog Bhavan, Sector - 11,Gandhinagar – 382 011.The bidder shall submit an undertaking stating that the compliance with all the conditions and Technical Specifications of the RFP since no deviation will be acceptable to GIPL/CLIENT.

- ✓ In case the Bidder fails to submit the entire relevant documentary evidences, his bid is liable for rejection by GIPL/CLIENT without assigning any reason thereof.
- ✓ The Bidder shall also include the undertaking from respective OEMs on availability of spare parts for a period of 2 years from the project commissioning date at the reasonable rate. The spare parts and other necessary installations for keeping the whole system operational shall be provided and installed by the bidder. It is the bidder's responsibility to maintain the whole System operational during 2 years of period after project commissioning. No payment shall be made for the spares and other necessary installation to be provided and installed for maintaining the whole System during onsite 2 years' warranty period.
- ✓ The bidder should submit valid letter from the OEMs confirming the following:
    - Authorization for bidder
    - Confirm that the products quoted are not "End of life Products"
    - Undertake that the support including spares, patches for the quoted Products and/or Upgraded version shall be available for next 2 years.

SECTION D – ESTIMATED BILL OF MATERIAL:

Sr. No	Description	Unit of Measurement (UoM)	Estimated Qty.
1	CAT6 UTP Outdoor cable	Mtr	1220
2	Cat6 UTP LSZH Patch Cord 0.5 mtr	Nos	335
3	Cat6 UTP LSZH Patch Cord 1 mtr	Nos	10
4	Cat6 UTP LSZH Patch Cord 3 mtr	Nos	15
5	CAT6 UTP Information Outlet	Nos	345
6	faceplate for CAT 6 UTP with back box	Nos	195
7	CAT 6 UTP 24 port patch panel loaded	Nos	4
8	PVC Pipe / Conduit	Mtr	500
9	SITC of 3 Core - 1.5 Sq MM Shielded Copper FRLS Power Cable	Mtr	4000
10	6 core Armored Outdoor Fiber cable with HDPE	Mtr	8000
11	8 Port Loaded fiber patch panel loaded with pigtails - LC Single mode	Nos	162
12	12 Port Loaded fiber patch panel loaded with pigtails - LC Single mode	Nos	4
13	LC-LC duplex fiber optic patch cords 3 Meter - Single mode	Nos	345
14	Fiber splice closure outdoor	Nos	10
15	OFC markers	Lot	1
16	Double walled corrugated pipes (DWC)	Mtr	1000
17	Outdoor enclosure (Junction box) with pole clamp	Nos	162
18	Network rack 15U 600W X 500D	Nos	3
19	Network rack 42U 800W X 1000D	Nos	1
20	1 KVA Online UPS	Nos	162
21	10 KVA Online UPS (N+N redundancy)	Set	1
22	Industrial grade L2 managed POE switch	Nos	162
23	L2 Gigabit Ethernet POE Switch	Nos	4
24	L3 Network Switch	Nos	1
25	PTZ camera	Nos	16
26	Multi sensor 360 degree camera	Nos	3
27	Bullet outdoor IR camera	Nos	161
28	Network Joystick	Nos	1
29	Video management software (VMS) camera license	Nos	200
30	VMS Software PC / mobile client License	Nos	20
31	NMS Software	Set	1

32	KVM Switch	Nos	1
33	LED Display	Nos	3
34	Video Wall	Set	1
35	10G SFP Module	Nos	14
36	1G SFP Module	Nos	164
37	CCTV expert – 1 No	Man-Month	24

Note:

- Above Bill of material is tentative & it may vary depending upon the actual requirement. Billing & subsequent payment will be released on the pro-rata basis for actual supply.
- Bidder has to compulsory quote for single OEM make & model of individual item. The bid can have multiple OEMs but any quoted product with multiples OEM will be treated as non-compliance & that bid will be liable for rejection for further evaluation.
- Registered in China, Hong Kong & Republic of China (ROC) Original Equipment Manufacturer (OEM) products are not allowed.

SECTION E –GENERAL TERMS & CONDITIONS OF TENDER:

The bid prepared by the Bidder shall comprise of the following components. The bids not conforming to the requirements shall be summarily rejected.

i) Technical Bid

Technical Bid shall comprise of the covering Letter, tender fees, EMD, Technical Proposal and other required documents such as brochures, product details etc. The technical proposal shall be comprised minimal of the solution architecture, project implementation Bar-chart & plan, approach methodology, SLA adherence plan etc. Please note that no price schedule shall be indicated / submitted in/ as a part of the Technical Bid. Bid along with price bid will be liable for rejection of entire bid without assigning any reason. The price bid shall only be quoted online at https://gipl.nprocure.com. The technical bid shall be submitted online only at https://gipl.nprocure.com along with the physical bid submission and in case of any discrepancy, the bid submitted online will be considered final. The hard copy of the bid is for reference purposes only.

Bidders are requested to note the following:

- Bidder has to submit the project implementation Bar-chart as a part of the mandatory requirement of the technical bid.
- Bidder must submit single make with model for individual product in the technical bid (online as well as hardcopy). The bid can have multiple OEMs but any quoted product with multiples OEM will be treated as non- compliance & that bid will be liable for rejection for further evaluation.
- Bidder shall include any additional hardware or software required on its own without any additional cost implication to make their solution fully functional as per requirement.
- Bidder must submit the technical specifications compliance of each and every product in the Technical Bid.
- Bidder must include UNPRICED Commercial bid giving details of Bill of Materials and percentage tax applicable on each item.

ii) Commercial bid

The bidder shall strictly adhere to the format of the Commercial bid as specified in **SECTION L** of the bid document. The Commercial bid shall be submitted online only at https://gipl.nprocure.com. The Commercial bid submitted in any other form and format shall not be considered valid and such bid is liable for rejection.

iii) Tender Fees

The bidders must submit, along with their Bids, **non-refundable tender fees of Rs. 15,000/- + 18% GST = Rs. 17,700 (Rupees Seventeen Thousand Seven Hundred only),** in the form of Demand Draft (DD) issued by a Nationalized Banks including IDBI Bank / Private Banks – Axis Bank, HDFC Bank & ICICI Bank only in favor of "Guj Info Petro Limited" payable at Gandhinagar. GIPL shall issue necessary invoice as per GST Regulation.

iv) Earnest Money Deposit (EMD)

The bidders must submit, along with their Bids, **refundable EMD of Rs. 15,00,000/- (Rupees Fifteen Lacs only) in** the form of Demand Draft (DD) or in the form of Bank guarantee issued by nationalized bank including IDBI Bank / Private Banks – Axis Bank, HDFC Bank & ICICI bank and other banks which is specified in Finance Department GR. No: EMD/10/2018/18/DMO dated 16/04/2018 only in favor of **"Guj Info Petro Limited" payable at Gandhinagar.** In case of EMD submitted in the form of Bank Guarantee (BG), such BG shall have minimum validity of 240 days from the bid submission date plus 90 days of the claim period. The EMD shall be furnished in Indian Rupees (INR).

- **Refund of EMD to Disqualified bidder**

Disqualified Bidder's EMD shall be refunded without any interest within 45 days after the successful bidder finalization.

- **Refund of EMD to Unsuccessful Bidder**

Unsuccessful Bidder's EMD shall be refunded without any interest within 45 days after the submission of Security Deposit by the successful Bidder.

- **Refund of EMD to Successful Bidder**

The successful Bidder's EMD without any interest will be refunded within 45 days after the submission of Security Deposit.

- **Forfeiture of EMD**

The EMD can be forfeited if a Bidder

- Withdraws his bid during the period of specified bid validity OR Does not accept the correction of errors OR

In case the successful Bidder fails

- To sign the Contract within the specified time OR
- To furnish Security Deposit within the specified time OR
- To accept LOI within specified time limit

Earnest Money Deposit will be retained in the case of successful bidder and will not carry any interest. It will be dealt with as provided in the tender. EMD of successful bidder shall be refunded on submission of security deposit as per format and amount

mentioned in this tender document. If required, GIPL/CLIENT may ask the successful bidder to extend the EMD (in case submitted in the form of BG) submitted as and when required till the LOI issued by CLIENT. Failure of extending EMD (in the form of BG) shall make sufficient ground for considering such bid as invalid. In such scenario, GIPL/CLIENT may proceed ahead with next successful bidder for finalization.

v) **Undertaking**

An undertaking from the Bidder stating the compliance with all the conditions and Technical Specifications of the Bidding Document will be required since no deviation will be acceptable to GIPL/CLIENT.

3. Bid Price

i. Prices in the Price Schedule

The Bidder shall quote price in clear terms. Price Break up shall be provided in the Format for Commercial bid described in **SECTION L.** The rates quoted shall be inclusive of GST applicable as on bid submission date. In the event of any increase or decrease of GST rate & subsequent to award of work, which results in change in Contract Value, the successful bidder shall be covered for any such variation, i.e. neither bear additional GST rate nor will be beneficiary of reduction in GST Rate, subject to the production of documentary proof to the satisfaction of CLIENT to the extent which is attributable to such change as mentioned above.

ii. Fixed Price

Prices quoted by the Bidder shall be fixed and no variation will be allowed under any circumstances for the duration of the contract. No open-ended bid shall be entertained and the same is liable to be rejected straightway.

iii. Separation of Price Components

The price components furnished by the Bidder shall be solely for the purpose of facilitating the comparison of bids by GIPL and shall not in any way limit GIPL/CLIENT's right to contract on any of the items offered.

4. Period of Validity of Bids

Bids shall remain valid for **180 days** after the final date of bid submission declared by the GIPL. GIPL/ CLIENT reserves the rights to reject a bid valid for a period shorter than 180 days as non-responsive without any correspondence. Bid validity may be extended by mutual understanding between CLIENT and GIPL. In case the bid submission date is extended, the EMD (in case submitted in the form of BG) shall be extended accordingly by bidder suitably as per the terms of the tender. Failure of

extending the EMD validity shall make sufficient ground for considering such bid as invalid.

5. Format and Signing of Bid

i) Number of Copies of Bid

The Bidder shall submit the technical Bid online only at https://gipl.nprocure.com and shall also submit two copies (one original and one duplicate) of technical bid in physical form in the sealed cover separately. No Commercial bid submission in the physical form. In the event of any discrepancy between them, the original bid submitted online shall govern. The bid shall be submitted at the below address:

Guj Info Petro Limited
2ND Floor, Block No: 15, Udhyog Bhavan, Sector – 11,
Gandhinagar – 382011.

ii) Authentication of Bid

The original and all copies of the Bid Document (& subsequent corrigendum published if any) shall be type written in indelible ink and shall be signed by a person or persons duly authorized to bind the bidder to the Contract. A duly stamped original **Power-of-Attorney** accompanying the Bid Document shall support the letter of authorization. The person or persons signing the Bid Document shall initial all pages of the Bid Document, including pages where entries or amendments have been made. All the pages of the proposal should be serially numbered. Submission failure of (i) signed bid document & subsequent corrigendum published if any (ii) A duly stamped original Power-of-Attorney in the technical bid will make sufficient ground for considering bid as non-responsive.

iii) Validation of interlineations in Bid

Any interlineations, erasures, alterations, additions or overwriting shall be valid only if the person or persons signing the bid have authenticated the same with signature.

6. Sealing and Marking of Bids

i) Enclosing of Bid

The hard copy of the Technical Bid along with brochures / specifications / other documents shall be placed in a sealed envelope clearly marking **"Technical Bid".** The Bidder shall submit the Technical Bid, Tender fees and EMD, sealed individual in separate covers, shall be placed in one big cover clearly marked as **"**Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)." All the pages of the

technical bid shall be signed and stamped by the authorized signatory of the bidder except published materials such as brochures, product catalogues etc.

ii) Responsibility of Bidder

If the outer envelope is not sealed and marked as required, GIPL/CLIENT will assume no responsibility for the Bid's misplacement or premature opening.

iii) Rejection of Bid

Any condition put forth by the bidder non-conforming the bid requirements shall not be entertained at all and such bid shall be rejected. The Technical Bid and the Commercial shall be submitted in the prescribed format and uploaded online only through https://gipl.nprocure.com along with physical submission of technical & Pre-qualifications documents. Bids submitted by Telex, fax or email will not be entertained. Any bid not authenticated or not secured, will be rejected straightaway by GIPL/CLIENT without any further correspondence, as non-responsive. A bid that does not meet any / partial / all pre-qualification criteria OR non – fulfilling of technical evaluation will be rejected by GIPL/ CLIENT and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation by the Bidder.

7. Modification and Withdrawal of Bids

i) Written Notice

The Bidder may modify or withdraw its bid after the bid's submission provided that GIPL/CLIENT receives written notice of the modification or withdrawal before the expiration of bid submission deadline.

ii) Signing and Marking of Notice

The bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions of tender. A duly signed withdrawal notice may also be sent by post so as to reach the designated office before the expiration of bid submission deadline.

iii) Last Date for Notice

No bid shall be modified subsequent to the deadline for submission of bids. No bid shall be withdrawn in the interval started from the date of bid submission and the expiration of period of bid validity specified by the Bidder. Withdrawal of a bid during this interval shall result in forfeiture of the bid security (EMD) paid by the bidder.

8. Deadline for Submission of Bids

i) Last date for Submission

In the event of the specified date for the submission of physical Bid being declared a holiday for the GIPL/CLIENT, the physical Bid will be received up to the appointed time on the next working day.

ii) Extension for Last date for Submission

GIPL/CLIENT may, at own discretion; extend this deadline for submission of bids by amending the bid document, in which case all rights and obligations of the GIPL/CLIENT and Bidders who have submitted the bid shall remain same.

9. Late submission of physical bid

Any bid received after the deadline for submission of physical bid stipulated by the GIPL/CLIENT, shall be summarily rejected and returned unopened to the Bidder. GIPL/CLIENT shall not be responsible for any postal delay or non-receipt / non-delivery of the documents. No correspondence for this shall be entertained.

10. Opening of Bids

i) Opening of Technical and Commercial Bids

GIPL will open all Technical Bids at GIPL's office in the presence of GIPL, CLIENT officials along with bidders' representatives as per date mentioned in the tender document or subsequent corrigendum published if any. Commercial Bids will also be opened at GIPL's office by GIPL in the presence of GIPL, CLIENT officials along with technically qualified successful bidders' representatives as per informed date.

ii) Bids Not Considered for Evaluation

Bids that are rejected during the Preliminary / Pre – qualification / technical evaluation process shall not be considered for further evaluation irrespective of the circumstances.

11. Preliminary Examination

i) Completeness of Bids

All the necessary documents required for the bid submission should be strictly complied. No new documents / papers that are found essential as a part of bid submission / evaluation shall be accepted after the bid submission closing time & at any stage of tender evaluation.

ii) Rectification of Errors

Arithmetical errors will be rectified on the following basis: -

- 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.

If there is a discrepancy between the rates in words and figures, the rate in words will govern. If the supplier does not accept the correction of errors, his bid will be rejected and his EMD may be forfeited.

12. Project Schedule

The successful bidder shall complete and implement the project within **03 (Three) Months from the date of Work order / Purchase Order issued by CLIENT. It is mandatory for the bidder to submit the Bar-chart comprised of the project implementation plan as a part of the technical bid & non submission of the same shall be considered as non-compliance & such bid will be declared as non-responsive.**

13. Project Management

Successful bidder shall nominate one technically qualified engineer as a Project Manager who will be single point of contact during the entire contract period.

14. Notification of Award

i) **Notification to Bidder**

The Bidder whose bid has been accepted shall be notified of the award by registered letter / E-mail / Fax by CLIENT. This letter (hereinafter called the "Letter of Intent - LOI") shall state the sum that CLIENT shall pay the bidder in consideration of the execution, completion and maintenance of the work as prescribed by the Contract (hereinafter called the "Contract Value") in accordance with Payment Terms. The Bidder shall acknowledge in writing, the receipt of the Letter of Intent and shall send his acceptance to enter into the Contract within Three **(03) working days** from the receipt of the Letter.

ii) **Signing of agreement**

Pursuant from the date of acknowledgement of the Letter of Intent (LOI) & subsequent submission of security deposit by successful bidder as mentioned in the below-mentioned clause of Security deposit, the successful bidder and CLIENT shall promptly; sign the Contract agreement on non-judicial stamping of **Rs. 300/-**. This shall be subject to the furnishing of the security deposit. The said agreement will be finalized by the CLIENT and shall be signed on all the pages by the person(s) duly authorized to bind the bidder to the contract. CLIENT shall have the right and authority to negotiate / add certain terms with the successful bidder before signing of the Contract. The incidental expenses of execution of agreement / contract shall be borne by the successful bidder.

iii) **Work Order/Purchase Order**

CLIENT shall issue firm Work order/Purchase order mentioning the sum that CLIENT shall pay the successful bidder in consideration of the execution, completion and maintenance of the work as derived from Contract (hereinafter called the "Work order Value") in accordance with Payment Terms. Objection, if any, to the Purchase Order must be reported to the CLIENT by the successful bidder within three (3) working days counted from the date of Purchase Order for modifications, otherwise it is assumed that the successful bidder has accepted the Purchase Order in totality. This is applicable in case of electronic publishing / delivery of Work Order also.

After receipt of the Work Order, the project execution period will be calculated from the Purchase Order / Work order date. In case of amendment of Purchase Order / Work order by CLIENT, the project execution period will be calculated from the date of amendment.

15. Annulment of Award

Failure of the successful Bidder to comply with pre-qualification criteria, evaluation criteria and other terms and conditions set out in the Tender Document shall constitute sufficient ground for the annulment of the award of Contract and forfeiture of the security deposit, in which event CLIENT may make the award to the next lowest evaluated Bidder after negotiations.

16. Additional Work

If there is an increase/decrease in the material (Hardware / software) during the course of the implementation / Post Implementation, the bidder shall be given the additional work on a pro-rata basis depending on the quoted rate. The rates finalized in the contract agreement will be valid for 180 days from date of Work order / Purchase Order.

17. Modification of Scope of Work

In case of modification of Scope of Work, CLIENT shall be liable to pay higher or lower than the contract price as is mutually decided between CLIENT and the successful bidder at the time of modification.

18. Suspension

CLIENT may, by written notice to the successful bidder, suspend all payments if failed to perform any of its obligations under this Contract including carrying out of the services, provided that such notice of suspension

(a) Shall specify the nature of failure.
(b) Shall request the Bidder to remedy such failure within a period not exceeding thirty (30) days after receipt of such notice of failure.

19. Termination of Contract

19.1 Termination for Default

Notwithstanding anything elsewhere herein provided and in addition to any other right or remedy of the CLIENT against the successful bidder or otherwise (including the right of the CLIENT to claim compensation for delay of the works) CLIENT shall be entitled to terminate the contract by written notice at any time during currency on or after the occurrence of any one or more of the following events / contingencies, without paying any compensation in lieu thereof, namely:

Default or failure by the successful bidder of any of the obligations under contract including but not limited to:

- CLIENT Management reserves the right to terminate the contract and / or get the balance work completed at the risk and cost of the successful bidder.
- Negligence in carrying out the works and not following the CLIENT instructions for execution of work or carrying out any work found to be unsatisfactory by CLIENT.
- Abandonment of the works or any part thereof.
- Substantial suspension of the works or any part thereof for a period of 30 days or more without the authority & knowledge of the CLIENT authorized representative.
- Breach of any of the terms, conditions or provisions of the contract/Project on the part of successful bidder.
- If the successful bidder is incapable of carrying out the work and / or failure to achieve the laid down targets.
- If there is any change in the constitution of the successful bidder, or in the circumstances or organization of the successful bidder, which is detrimental to the interests of the CLIENT.
- Distress, execution or other legal process being levied on or upon any of the successful bidder's goods and assets;
- Death of Successful bidder (if an individual);
- If the Successful bidder or any person employed by him shall make or offer any gift, gratuity, royalty, commission, gratification or other inducement (whether money or in any other form) for any purpose connected with the contract to any employee or agent of the CLIENT.

- If the Successful bidder shall assign or attempt to assign his interest or any part to any other agency thereof in the contract without CLIENT's prior consent in writing.

The notice of termination shall set forth in addition to a statement of the reason or reasons for terminating of the contract, the time(s) and place(s) for conducting a survey and measurement of the work performed under the contract up to the date of termination for the purpose of determining the final amount(s) if due to the successful bidder therefore. The reason (s) for the termination stated in notice of termination shall be final and binding upon the successful bidder.

19.2 Termination for Insolvency, Dissolution etc.

CLIENT shall at any time terminate the contract by giving written notice to the successful bidder without compensation to the successful Bidder, if the successful bidder becomes bankrupt or otherwise insolvent or in case of dissolution of firm or winding up of company, provided that such termination shall not prejudice or effect any right of action or remedy which has accrued thereafter to the CLIENT.

19.3 Termination for Convenience

CLIENT reserves the right to terminate by prior written notice, the whole or part of the contract without compensation to the successful bidder. The notice of termination shall specify that termination be for CLIENT's convenience, the extent to which performance of work under the contract is terminated and the date on which such termination becomes effective.

19.4 No Claim Certificate

The successful bidder shall not be entitled to make any claim, whatsoever, against CLIENT under or by virtue of or arising out of this contract nor shall the CLIENT entertain or consider any such claim after successful bidder shall have signed a "no claim" certificate in favor of the CLIENT in such forms as shall be required by the CLIENT after the works are finally accepted.

20. Rights to Data

CLIENT shall retain all right, title and interest in and to any and all data, entered or generated by the successful bidder for CLIENT pursuant to this agreement and any modifications thereto or works derived there from.

21. Relationship between the Parties

Nothing mentioned herein shall be constructed as relationship of CLIENT and successful bidder or of principal and agent as between CLIENT and successful bidder. The successful bidder subject to this contract has complete charge of personnel, if any, performing the

services under this Project from time to time. The successful bidder shall be fully responsible for the services performed by them or on their behalf hereunder.

22. Standards of Performance

The party awarded with the contract shall perform the services and carry out their obligations under the Contract with due diligence, efficiency and economy in accordance with generally accepted professional standards and practices. The party shall always act in respect of any matter relating to this contract as faithful advisor to CLIENT and shall always support and safeguard the legitimate interests of CLIENT, in any dealings with the third party. The awarded party shall abide by all the provisions / Acts / Rules etc. of compliance prevalent in the country. The bidder shall conform to the standards laid down in Bid Document in totality.

23. Delivery and Documents

The successful bidder shall execute the project within scheduled timeline. In case of termination of the Contract, the entire documents / any other credentials etc. used by successful bidder in the contract period shall become property of CLIENT.

24. Governing Law, Jurisdiction and Arbitration

The contract shall be governed in accordance with the laws of India. Any dispute between the parties arising out of the Contract shall be referred for determination by arbitration as prescribed in the Arbitration & Conciliation Act, 1996 as amended from time to time. The Arbitration Tribunal shall consist of a Sole Arbitrator to be appointed by CLIENT. The Arbitration shall be conducted in English language and the venue and seat of the arbitration shall be **Gandhinagar, Gujarat.** Subject to the arbitration agreement as mentioned above, the Parties submit to exclusive jurisdiction of courts at **Gandhinagar, Gujarat** in relation to any matter arising out of the Agreement.

25. Notice

Any notice, request or consent required or permitted to be given or made pursuant to this contract shall be in writing.

26. Miscellaneous

- All intermediate products and end product of the work assignment carried out by the successful bidder, in any form, will be the sole property of CLIENT.
- In the event the successful bidder's Company or the concerned Division of the company is taken over / bought over by another company, all the obligations under the agreement with CLIENT shall be transferred and vested in the new company.

- The successful bidder has to submit the certificate to the effect that Company's Director / Individual is not related to any Employees working in the CLIENT.

27. Force Majeure

Force Majeure means such of the following factors which substantially affect the performance of the contract such as natural phenomena, including but not limited to floods, draughts, earthquakes and Epidemics; acts of any Government, domestic or foreign, including but not limited to war, declared or undeclared, quarantines, embargoes; illegal strikes and legal lockouts in respect of scope of work provided;

Either party shall within fifteen (15) days from the occurrence of such a cause notify the other in writing of such causes. The successful bidder shall not be liable for delays in performing their obligations resulting from any Force Majeure cause as referred to and / or defined above.

However, if such an event lasts for a period of 90 days or more than either party shall have an option to terminate the Agreement forthwith without any liability after intimating the other party of the same. The successful bidder shall however be entitled to receive payments for all the services rendered by it under this Agreement prior to termination of contract.

28. Inspection

The successful bidder shall:

- Facilitate the CLIENT's nominated / delegated authority to inspect, supervise assess including without limitation to Revenue Authorities and Certifying Authorities, the CCTV surveillance system installed at the CLIENT premises and other arrangements to ensure the effectiveness, after giving prior notice of **7 (Seven) days** in writing or by way of surprise check. If any malfunctioning or deficient operation is reported and CLIENT or State Government or any nominated / delegated authority is of opinion to correct the same then the successful bidder has to do the needful without any other cost implementation as per guidelines provided.

- Facilitate and provide all assistance to CLIENT's nominated / delegated authorities.

- Allow and facilitate examination by CLIENT's nominated / delegated authority the operations pertaining to the CCTV surveillance system at intervals as mutually decided between CLIENT and the successful bidder.

29. Fraud and Corruption

In pursuit (pursuance) of this tender, CLIENT,

i. Defines, for the purposes of this provision, the terms set forth as follows:

a. “Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of CLIENT or its official by any personnel of Bidder in procurement process or in contract execution.

b. “Fraudulent practice” means a misrepresentation of facts, in order to influence a procurement process or the execution of a contract, to the detriment of CLIENT, and includes collusive practices among the bidders (prior to or after Proposal submission) designed to establish bids at artificially high or non-competitive levels and to deprive the CLIENT, of the benefits of free and open competition;

c. “Unfair trade practices” means supply of goods or services different from what is quoted / ordered on.

d. “Coercive practices” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the execution of contract.

ii. CLIENT will reject a proposal for award or terminate the contract, if it determines that the bidder recommended for award has engaged in corrupt, fraudulent, unfair trade practices or coercive practices.

iii. CLIENT shall declare a bidder ineligible, either indefinitely or for a stated period of time, for awarding the contract, if it at any time determines that the bidder has engaged in corrupt, fraudulent, unfair trade and coercive practices in competing for or in executing, the contract and will terminate the contract.

30. Negotiation

It is absolutely essential for the bidders to quote the lowest price in their bid for their own interest. CLIENT, however, shall have the discretion to choose to enter into any price negotiations or not. CLIENT will not bound to accept any or the lowest tender in any case.

31. Award of Contract

CLIENT reserves the right to accept or reject any bid, and to annual the bidding process and reject all bids at any time before the contract award without thereby incurring any liability to the affected Bidder or Bidders.

32. Contact Details

All inquiries concerning this procurement shall to be addressed to the following:

Guj Info Petro Limited (GIPL)
2rd Floor, Block No: 15, Udyog Bhavan, Sector – 11, Gandhinagar – 382 011.
E-mail: projects@gipl.net

Prospective Bidders are specifically directed NOT to contact any other person apart from the one mentioned above in this Bid Document for meetings, conferences or technical discussions that are related to the Bid Document. Unauthorized contact shall be caused for immediate rejection of the Bidder's Bid Document response. Substantive questions shall be dealt with in writing.

Prospective Bidders is strictly advised to refrain from contacting the CLIENT or and / or his employees / representatives directly or indirectly by any means related to the tender. The Violation of the same would entail disqualification of the bidders from tender process and exclusion from future business dealings.

33. Intellectual Property Rights and Rights to Integrated Application System.

CLIENT shall retain all right, title and interest in and to any and all software, firmware and hardware procured designed and developed for CLIENT by the successful bidder pursuant to this project and any modifications thereto or works derived there from. The successful bidder shall have no right, title or interest in or to such designs, programs, modifications for any purpose except the right to use, modify, enhance and operate such designs, programs, modifications in order to perform services hereunder, and as may be expressly set forth herein or in a separate written agreement executed between the parties.

The terms software, software programs and programs shall include specifications, documentation, technical information, all corrections, modifications, additions, improvements and enhancements to any of the foregoing provided to CLIENT by the successful bidder pursuant to this project. The terms firmware and hardware shall include the designs, drawings, specifications, custom designed electronic devices, documentation and technical information, all corrections, modifications, additions, improvements and enhancements to any of the foregoing provided to CLIENT by the successful bidder pursuant to this project.

34. Insurance

i) General

The Bidder at its cost shall arrange, secure and maintain insurance of supplied goods & services as may be necessary and to its full value for all such amounts to protect the

works progress from time to time and the interest of the CLIENT against all risks as detailed herein. The form and other limit of such insurance as defined herein together with the under works thereof in each case shall be as acceptable to the Owner. **However, the responsibilities to maintain adequate insurance coverage of supplied goods & services by the successful bidder till the date of the commissioning & acceptance by the CLIENT**. It is the responsibility of the CLIENT to provide adequate security to the onsite materials once delivered by the successful bidder at the respective site. The bidder's failure to maintain adequate insurance coverage shall not relieve of any of his responsibilities and obligations under this contract. All costs on account of insurance liabilities as mentioned above shall be bidder's account and shall be included in the contract price.

ii) Compliance of Labor / Employee related Acts:

The successful bidder shall be liable to adhere strictly all rules & regulations related to employees' / Labor laws such as Provident Fund, Employee State Insurance, and Professional Tax etc.

iii) Any other insurance

The successful bidder shall also carry any and all other insurance, which he may be required under any law or regulation from time to time without any extra cost to the CLIENT.

iv) Accident or injury to workmen

CLIENT shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequences of any accident or injury to any workmen or other person engaged by the successful bidder or Technology Partner or any sub-contractor or sub Technology Partner.

v) Transit insurance

In respect of all items are to be transported by the successful bidder to the site of work, the cost of transit insurance shall be borne by the successful bidder and the quoted price shall be inclusive of this cost.

35. Third Party Inspection

The successful bidder shall provide assistance & support to CLIENT or its nominated / delegated authority to inspect, supervise and assess all the equipment/system installed at the premises and other infrastructure arrangements.

36. Training

The successful bidder also has to give training to the CLIENT's end user for the entire working of the whole installed system without any additional cost implication. The

successful bidder has to appoint proper training staff after the commissioning and configuration of the project. The training may be given in two or three batches if required where the detailed training for the whole installed system and its working procedures, precautions considered to handle the whole installed system, operation, maintenance, service etc. has to be explained. The infrastructure pertaining to the training like room, sitting arrangements, projector/ display, table & chairs etc. shall be provided by the CLIENT.

The successful bidder also has to prepare the proper user-friendly training manual for all the training staff who is taking the training with proper user-friendly language (English as well as Gujarati) with proper screen shots and pictures to explain the working and methodology of the system in local language also.

37. Confidential Policy

The successful bidder and its personnel shall not, either during the term or after expiration of this contract, disclose any proprietary or confidential information relating to the services, contract or the CLIENT's business or operations without the prior written consent of CLIENT.

The successful bidder has to follow all the rules and regulations of the guidelines and has to follow strictly to privacy. Some of the guidelines are as follows, however it is not limiting to the same. Successful bidder has to contact the CLIENT authority and get all the guidelines to carry out the work in the CLIENT premises.

1. All paper works prepared to this project are very confidential property of CLIENT authority. If required Successful bidder has to submit the privacy agreement with the CLIENT as per mutually agreed format. All the responsibility lies with the successful bidder of the privacy of the documents handed over to him for execution.
2. The staff of the successful bidder should not involve with any activity related to CLIENT.
3. No activity is allowed in the CLIENT premises by any staff of the successful bidder that affects to the CLIENT security and peace.

38. Limitation of Liability

The successful bidder's total liability to CLIENT over the period of the Agreement arising out of or in connection with the Agreement whether such liability arises from any claim based upon contract, warranty, tort or otherwise, shall in no case **exceed 100% of the actual amount to the paid to successful bidder under the Agreement.** In no event shall successful bidder be liable for any incidental damages, consequential damages, special damages, indirect damages, loss of profits, loss of revenues, or loss of use, these

limitations and exclusions will apply regardless of whether liability arises from breach of contract, warranty, tort (including but not limited to negligence), by operation of law, or otherwise. The successful bidder's liability under the Contract will (including in respect of any indemnity) be reduced to the extent to which CLIENT or a third party (not engaged by Bidder) has caused or contributed to such liability.

39. Data Security

Successful bidder and its team have to maintain the confidentiality and security of data in true spirit. In no case, breach in security of data will be acceptable. Violation of this clause may lead to severe penalties, maximum up to termination of involved agency as decided by the CLIENT. In this regard, successful bidder has to sign Non-Disclosure Agreement (NDA) with CLIENT. It will be successful bidder's responsibility to get this agreement signed along with contract agreement. The format of Draft NDA will be issued to the successful bidder later by CLIENT.

SECTION F – WARRANTY & CAMC:

40. Warranty Period

There will be 2 years of warranty period comprised of onsite service, support, goods & labor etc. at all locations mentioned in **Annexure A** from the date of the commissioning & acceptance of the project. It shall be the responsibility of the successful bidder to replace any supplied item OR its defective parts with the same make & model (higher model in case of model discontinuation declared by OEM) without any additional cost. The defective part so replaced shall be the property of the successful bidder. The successful bidder shall keep enough spares (if required) at the CLIENT location during warranty period.

Maintenance Support Service

The bidder is expected to transfer the knowledge to the CLIENT Officials nominated Technical Team but however shall commit one dedicated technical personnel as overall support for **a minimum period of two years from the completion of final acceptance test.**

At CLIENT's option, the successful bidder shall provide ongoing maintenance support services for the entire system over two years' period or any period as agreed.

41. Comprehensive Annual Maintenance Contract (CAMC) - Optional

It is mandatory for the bidder to quote for the CAMC which may be applicable immediately after expiry of 2 Years of the contract period. Total CAMC shall be for a period of **2 years (optional).** The bidder shall do and perform the monthly and regularly preventive maintenance as part of the AMC. Since the AMC is comprehensive (manpower & spare-parts) in nature, it shall be the responsibility of the bidder to replace any defective parts without any additional cost. The defective part so replaced shall be the property of the bidder. Bidder shall keep enough spares at the CIENT location during CAMC period and the cost for the spare-parts are to be borne by the bidder.

At CLIENT's option, the successful bidder shall provide ongoing CAMC services for the entire system over two years' period or any period as agreed.

SECTION G – COMMERCIAL TERMS AND CONDITIONS:

42. Security Deposit

Within seven (07) working days of the receipt of Letter of Intent (LOI) from the CLIENT, the successful Bidder shall deposit the Security Deposit at a rate of **5% for the Total Value of the contract including taxes** as per format mentioned **Annexure V** for the due and faithful performance of the contract. The Security Deposit is to be submitted in the form of a Bank Guarantee or Demand Draft / Bank Guarantee from the banks mentioned in the Govt. GR No. EMD/10/2018/18/DMO dated 16/04/2018 is only acceptable which is drawn in favor of **"Gujarat State Disaster Management Authority" payable at Gandhinagar**. If the bidder fails to deposit this amount of Security Deposit within the stipulated time which shall include any extension granted by CLIENT at its own discretion, **no payment shall be made to the successful bidder then after.** CLIENT shall reserve the right to cancel the agreement in such event and forfeit the EMD and exercise its right to accept any other bid / tender which is considered suitable. The Security Deposit furnished by the bidder shall carry no interest. The EMD submitted earlier by the successful Bidder shall be refunded against the submission Security Deposit.

The Security Deposit shall remain at the entire disposal of CLIENT as the security for the satisfactory execution and completion of the work in accordance with the terms and conditions of the Contract. CLIENT shall be at liberty to deduct an appropriate amount from the Security Deposit such losses, damages, penalties and dues as may be payable by the bidder under the contract and the amount by which the Security Deposit is reduced by such appropriation shall be made good by further deduction from the bidder's subsequent interim bills until the Security Deposit is restored to its full as limit as mentioned in clause above. On satisfactory performance and completion of the contract, in all respects, and upon return in good condition of any property belonging to CLIENT, the security Deposit shall be returned to the successful bidder after completion of on-site warranty support (including hardware & software licenses) period from the date of the commissioning & acceptance of the project. **The Security Deposit must be valid minimum for 30 months of time period (3 Months of execution + 24 Months of warranty period + 3 months of claim period).**

If required, on intimation by CLIENT, the successful bidder has to extend the SD for the suggested time period as and when required (in case the contract period extended by whatsoever reason) & failure of the same will be treated as breach of the contract and enables CLIENT to take appropriate actions in this regard.

Optional for CAMC:

In case if work order issued by the CLIENT with 2 years' warranty period & 2 years of CAMC then in such case, the Security Deposit must be valid minimum for **54 months of time period (3 Months of execution + 24 Months of warranty period + 24 Months of CAMC period + 3 months of claim period).**

In case, CLIENT issue a separate work order for CAMC / amend the already issued work order for CAMC, in such case, the bidder has to submit new security deposit having validity minimum for **27 months of time period (24 Months of CAMC period + 3 months of claim period).** The amount of SD shall be as 10% for the Total CAMC value including taxes as per format mentioned Annexure V. The Security Deposit is to be submitted in the form of a Bank Guarantee or Demand Draft from the banks mentioned in the Govt. GR No. EMD/10/2018/18/DMO dated 16/04/2018 is only acceptable which is drawn in favor of **"Gujarat State Disaster Management Authority" payable at Gandhinagar**.

If required, on intimation by CLIENT, the successful bidder has to extend the SD for the suggested time period as and when required in both above mentioned scenario & failure of the same will be treated as breach of the contract and enables CLIENT to take appropriate actions in this regard.

43. Taxes & Duties

1. The contractor shall bear and pay all taxes, duties, levies, cess and charges assessed on the contractor or their employees by all municipal, state or national government authorities in connection with the contract in and outside of the country where the site is located and no adjustment or variation will be allowed for changes thereof.
2. For the payment of taxes as specified in the price bid, the contractor shall be required to charge taxes at the rate applicable from time to time.
3. For the purpose of the Contract, it is agreed that the Contract Price specified in LOI / Contract Agreement is based on the taxes, duties, levies and charges prevailing on the date of bid submission in India and Gujarat where the site is located (unless otherwise revised by mutual consent).
4. The Contract Price shall be deemed to be firm and valid for the entire duration of the Contract till the completion of scope of work under this Contract unless it is due to change in tax law.
5. The Contract Price may be varied due to situations giving rise to change in Tax Law arising between the date of bid submission and the contractual date of supply of the Goods and / or performance of the Services under the contract. The Indirect Taxes that shall be considered for Change in Tax Law shall be included but not limited to

the following taxes leviable on the direct transaction between the contractor and the CLIENT unless specified otherwise:

- CGST, SGST & IGST

6. Further, such variation shall be made only in respect of taxes (both nature and quantum) originally factored by the contractor in their initial bid offer, unless the tax sought to be recovered is a new tax arising on account of Change in Tax Law which was not in force on the date of bid submission.
7. No variation shall be allowed on account of any taxes applicable outside India.
8. Billing can be done from Gujarat or anywhere in India.
9. The contractor shall issue proper invoice as stipulated under the Goods & service tax (GST) legislation or any such other legislations as may be relevant from time to time.
10. Each party hereto, agrees to indemnify and keep indemnified and saved harmless at all times the other party against any loss, cost, expenses or damage suffered or incurred by it, by reason of its failure to pay taxes, duties, etc. which it is obliged to pay pursuant to the provisions of this clause and / or arising out of its failure to comply with its obligations under this clause.
11. Tax deductions at source will be made by the CLIENT on payments made to the contractor, as per the applicable Central and State laws.
12. All payments to the contractor shall be subject to applicable withholding (whether applicable as of the date of this Contract or imposed /required by any municipal, local, state or national government authorities or any other Government Instrumentality at any time during the subsistence of the Contract) or statutory deductions as required in respect of income tax as well as any other Taxes (including but not limited to Building and Other Construction Workers' Welfare Cess). The CLIENT shall issue necessary tax deduction / withholding certificates to the contractor. If the contractor obtains appropriate lower withholding orders (as per CLIENT's satisfaction), withholding may be carried out at such lower rates.
13. The risk of all tax positions taken by the contractor shall be borne solely by the contractor.
14. Contractor shall strictly and in a timely manner, adhere to and undertake all acts, omissions and compliances required under the applicable GST laws to ensure that CLIENT is able to avail the Input Tax Credit / set off / rebate / refund of the GST (along with cesses and surcharges, if relevant) applicable on the supplies made by the Contractor to the fullest extent possible under law. In this regard, without limiting the generality of the foregoing obligation in any manner whatsoever, CLIENT reserves the right to specify, for the supplies envisaged under this Contract by the Contractor, the particular compliances to be undertaken (including aspects like (i) whether Contractor should charge IGST or CGST-plus-SGST; (ii) from where the

billing should be undertaken and to which registration of CLIENT; (iii) whether the Contractor should be responsible to generate the E-Way Bill; (iv) the format of invoices / credit and debit notes / advance receipt vouchers; (v) maintenance of 'Compliance Rating' above a specified threshold; etc) and the relevant timelines for such compliances based on the applicable GST laws.

(a) The Contractor acknowledges that any failure in the foregoing obligations (including undertaking the ones specifically instructed by CLIENT, if any) can cause significant losses to CLIENT in the form of loss of GST credit, statutory interest liability on such credit loss (under applicable GST laws) and adverse impact on compliance rating and thus, undertakes to carry out this foregoing obligation with sincerity, due diligence and without any delay or demur.

(b) The contractor agrees that CLIENT will reimburse the GST component on supplies received only when the corresponding credit has become available in the electronic credit ledger of the relevant GST registration of CLIENT.

(c) Without prejudice to any other indemnification obligation under this Contract, the Contractor agrees to, at all times, to hold harmless and indemnify CLIENT from and against all claims, liabilities, expenses, proceedings, costs and losses that may be suffered or incurred by CLIENT which may arise out of or in connection with any failure by the Contractor to adhere to its obligations under clause (a) above. In this regard, the Contractor also hereby indemnifies CLIENT from any costs, claim or liability arising out of any claim or action or omission by any employee or consultant or agent or outsourced staff of the Contractor.

44. Liquidated damages

1) The bidder acknowledges that time is the essence of the Contract and in case of any delay in completion of the project by the successful bidder end; the said delay shall cause substantial damage to owner. The bidder hereby agrees without prejudice to any other right or remedy available to the Owner under the Contract to pay liquidated damages at rates mentioned herein.

   Bidder and owner agrees that the amount fixed as liquidated damages herein are reasonable and are a genuine pre-estimate of the minimum loss and damage that the Owner would suffer due to delay in completion by the successful bidder end and the Bidder shall not question the rate of liquidated damages in court of law or raise any question otherwise.

   Bidder guarantees that it will complete the Project within the time specified in **Clause of Project Schedule** or within such extended time as specified by the Owner.

Failure to achieve Completion of the Project as per time schedule shall lead to application of **liquidated damages** @ **2.5%** of the Total Contract Price per week or part there of subject to a **maximum of 10%** of the Total Contract Price. Once the Maximum is reached, the Owner shall have the right to terminate the Contract, pursuant to **Clause of Termination of Contract** without prejudice to its rights for claiming further general damages under the law. However, the payment of liquidated damages shall not in any way relieve the successful bidder from any of its obligations, duties, and responsibilities to complete the facilities or from any other obligations and liabilities of the successful bidder under the Contract".

2) No bonus will be given for earlier completion of the Project.

SECTION H – PAYMENT TERMS & SLA:

45. Payment Terms, Schedule of Payment

The Bidder‘s request(s) for payment shall be made to the CLIENT in writing accompanied by the details of work executed, supported with evidence of accomplishment of the item wise work.

Milestone		% Payment of Supply	% Payment of services
Schedule A of Commercial Bid			
1.1	On Delivery & inspection of the Materials at Site	50%	0%
1.2	On Go-Live of the Project	40%	90%
1.3	After 6 months from the date of Commissioning	05%	05%
1.4	After 1 year from the date of commissioning	05%	05%
Schedule B - Manpower of Commercial Bid			
2.1	Monthly in arrears	100%	
Schedule C (Optional) of Commercial Bid			
3.1	Quarterly in arrears	100%	

Note:

(1) While claiming 50% payment on Delivery of materials, the successful bidder has to submit the delivery challan of the materials supplied along with its verifications & acceptance report duly signed by local authority.
(2) While claiming payment on Go-live of the project, the successful bidder has to the submit Project commissioning & acceptance certificate duly signed by CLIENT competent authority along with the following documents:

- ✓ As-implemented architecture-diagram (in AutoCAD & PDF format)
- ✓ Standard operating procedures for administration of the installed system
- ✓ Asset Register comprised of model, make & serial numbers
- ✓ Warranty certificate (Back to back with OEM) for all components/system installed under this project
- ✓ License documents for all components/ system (wherever applicable) installed under this Project

(3) For manpower payment, the Successful Bidder has to submit attendance Report of deputed manpower duly signed by CLIENT authorities.

(4) For quarterly payment release during CAMC (Optional) period, the successful bidder has to submit per camera uptime report in days of the concerned quarter duly signed by CLIENT’s designated authority.

46. Service Level Agreement

The successful bidder has to maintain the service response time during entire contract period. The Service response time & subsequent penalty applicable (in case of failure of maintaining the service response time) is as mentioned below:

- The Maximum Time To Repair (MTTR): MTTR is defined as the total time required for successful bidder's maintenance/support engineer to report at the site after a request call/e-mail/fax is made or letter is written by CLIENT plus the fault detection & rectification time. The total MTTR will be of 24 Hours and shall be excluded while calculating downtime.

- The Replacement Time: In case of failure of any / all devices of CCTV surveillance system, the successful bidder will be liable to replace the damaged / faulty equipment within 02 (two) working days after fault detection.

- In case of shipment of new hardware (against damaged hardware) to OEM Service center for replacement purpose, the total period taken from dismantling of the hardware from site, shipment to OEM service center & reinstallation of the replaced hardware at site should not exceed 15 working days.

- During MTTR, if successful bidder's engineer found that product replacement / shipment required to make part of / entire CCTV system operational, he should bring into the notice of the CLIENT. However, it is the responsibility of the successful bidder to make system operational by replacing damaged / faulty equipment with spare equipment having equivalent or higher configuration of same make until completion of replacement / shipment time period. Failure of the same will be considered as downtime & in such case, penalty shall be applicable also as mentioned below:

Description	**Delay beyond the MTTR / Replacement Time / shipment time**	**Per camera Penalty in case of no viewing or physical failure by any means***
Response	Within 1 Day	Rs. 1,000/- per day
	Additional to penalty of Point No:1, From 2nd day to 4th day	Rs. 2,000/- per day
	Additional to penalty of Point No:2, From 5th day to 10th day	Rs. 3,000/- per day
	Additional to penalty of Point No:3, From 11th day onwards	Rs. 4,000/- per day then after

*Nonfunctioning of CCTV camera at any location due to any reasoning like own failure / networking device / cabling / power / VMS failure etc. supplied & installed by the successful bidder.

During contract period, the penalty will be recovered from the interim warranty / CAMC payment. If required, in addition to the quarterly payment, penalty can also be recovered by revoking the Security Deposit & it is the responsibility of the successful bidder to restore the Security deposit at its full value within 15 working days from the penalty recovery date and failure of same allow CLIENT to proceed ahead with forfeiting of SD.

❖ **Manpower deployment:**

Profile	Nos.	Roles & Responsibility (Minimal)	Qualification & Experience
CCTV expert	1	• Should be responsible for configuring, monitoring & managing entire CCTV surveillance network • Able to configure alerts, analytics & manage Video management software. • Should be responsible for monitoring of adherence to defined SLA for system by making effective utilization of CCTV surveillance. • Any work (Relevant to project only) assigned time to time by CLIENT.	• Graduate in any stream • 4+ Years of Post Qualification Experience in large scale (min. 200 IP cameras surveillance) of CCC operation comprising of VMS, Video analytics.

Penalty for Non-deployment of Manpower:

1. Rs. 750/- per person per day for any kind of leave / non deployment.
2. The Successful Bidder has to submit attendance Report of deputed manpower duly signed by CLIENT authorities with monthly invoice OR else penalty of INR 500/- shall be levied from monthly manpower payment.
3. If deviation in the qualification or in the experience of manpower provided by the successful bidder for deployment / replacement / reliever proved at any point of time during the contract period will be viewed seriously and the time period served by the such manpower shall be treated as non-deployment. In such case, the penalty will be applied 5 times of penalty referred at Sr. No. 1.

NOTE:

1. The monthly payment of manpower will be released only for the nos. of days' presence in the concerned month on pro-rata basis.
2. Above penalty will be applicable in addition to the payment deduction on pro-rata basis for the nos. of days' absence of the individual manpower in the concerned month.
3. There will not be any cap applicable on manpower penalty.
4. Successful bidder has to deploy Manpower as per requirement defined in the RFP.
5. The proposed manpower for deployment / replacement / relieving purpose for entire project of defined profile has to get approved by the CLIENT authorities.

Exclusion from SLA:

- The scheduled outages / planned maintenance should be excluded from considering the downtime.
- Down time due to failure or malfunction of any equipment or services not provided by the successful bidder. However, it is the responsibility of the successful bidder has to prove that the outage is not solely attributable to any equipment or services provided by the successful bidder.
- The selected SUCCESSFUL BIDDER will require to plan for 'scheduled outages / planned maintenance' in advance with prior approval of CLEINT. This will be planned during non - working hours. In exceptional circumstances, CLIENT may allow the successful bidder to plan scheduled downtime in the working hours. The scheduled outages / planned maintenance will include activities like software upgrades, patch management, security software installations etc.

SECTION I – SCOPE OF WORK:

Location Details: Please find enclosed LIST OF LOCATIONS as Annexure A.

THE SCOPE: The minimum scope of work (but not limited) is mentioned herewith as below:

OVERVIEW OF WORK

Scope of the work is to provide Surveillance Solution that includes but is not limited to installation only. It should cover Design, Supply, Installation, Implementation, Commissioning, Training, providing user manual, providing 36 months Warranty & support for the total solution including all hardware, software, materials, services and support etc. which should provide an Integrated Video Surveillance System for SMRITIVAN MEMORIAL PROJECT, BHUJ. All necessary cabling / wiring / sockets and infrastructure conforming to respective quality / standard norms are also included in the scope of this job.

Bidder shall be responsible for the following scope of services and shall be the Single Point of responsibility for the CLIENT officials for the entire period of 2 years of warranty.

PART-I: Supply and Installation of the CCTV Surveillance System:

1. Supply, install, operate, maintain and provide warranty & related support services for hardware and upgrade/update/enhancement for system software, as detailed out in technical specifications, including related software, firmware etc. for a period of 2 years from the date of commissioning for all supplied items at SMRITIVAN MEMORIAL PROJECT, BHUJ site including additional material/hardware/software /services as may be required to be supplied without any additional cost.

2. Any software and firmware upgrade / enhancement / engineering changes applicable to the hardware and software supplied should be provided for the warranty period within a period of one month from the date of release.

3. Providing detailed architecture diagram for optimum performance, security, scalability and desired uptime requirement. Should include all other supporting material as per the requirement to ensure smooth implementation. In that context, it is a ‘turn - key’ assignment.

4. The successful bidder will need to provide a detailed implementation plan including the architecture diagram, delivery of materials, specific issues, and their resolutions.

Detailed implementation and post - implementation processes and procedures should be provided by bidder.

5. The successful bidder has to provide the services for configuring and installing the hardware, deploying and installing the system software as per the requirements (porting of the application)/testing /integration of various hardware and software, as may be needed at SMRITIVAN MEMORIAL PROJECT, BHUJ Site without any additional cost for the period of 2 years from the date of project commissioning.

6. Bidder has to collaborate, coordinate and deploy manpower to ready the entire project setup. Bidder must build in the cost for the same, if any under implementation services.

7. Bidder should have a back-end / back-to-back support contract / agreement / arrangement for services including supply of spare parts, expertise requirements etc. with the Original Equipment Manufacturers (OEMs) of CCTV peripherals which includes the post-sales support activities to meet the Service Level Agreement (SLA) mentioned for the entire solution period. The OEM undertaking letter on OEM Letter Head in this regard should be submitted along with the bid.

8. Costs must include cost of delivery at designated locations of Camera at SMRITIVAN MEMORIAL PROJECT, BHUJ, transit handling and insurance, custom duties etc. as may be applicable. Taxes shall be shown separately as in financial bid and should include all applicable taxes as on date of bidding and shall be paid as per actual. Taxes not quoted shall not be paid to the Bidder.

9. Provide on-site warranty support as stated in Min. Technical Specifications Warranty Clause for all the supplied items.

10. Bidder has to ensure seamless integration of quoted Hardware & software product with applications and also has to provides the material/services which are not mentioned in min tech specification but required to complete the turnkey solutions without any additional cost invariably.

11. All quoted products must be configured for 3 years of Hardware and 3 years of Software warranty taken from OEM by bidder.

12. Bidder has to submit the detailed BOM (Bill of Material) along with part nos. for all quoted products inclusive of all licenses.

13. Bidder has to submit the OEM compliance letter showing line by line compliance with tender specification**.**

14. Bidder has to submit the full compliance of the tender terms & condition, scope of work and Service level agreement.

15. Bidder has to strictly adhere to Service Level Agreement

16. The server and storage products if used in virtualized environment for video management software necessary Installation / reinstallation of VMS, configuration and implementation support in future if required shall be provided by successful bidder.

PART-II: Overview AND Ensuring Solution of CCTV Surveillance System

1.2.1 The envisaged CCTV Integrated Video Surveillance system shall be IP based & ONVIF System with distributed architecture having NOC at the local office of installed location & viewing facility at the NOC office at SMRITIVAN MEMORIAL PROJECT, BHUJ. Fixed day and night Surveillance Cameras shall be used at informed location. All the cameras should be capable to record all the activities even zero light.

1.2.2 The proposed Solution should allow SMRITIVAN MEMORIAL PROJECT, BHUJ officials to locally and centrally monitor its facilities from a remote location on a personal computer/monitor/ Mobile phone. Any kind of configuration /setting done by bidder without any cost.

1.2.3 The Solution should capture, store, and analyze digital Video images with audio to enable central monitoring, increase operational efficiency, reduce liability, minimize risk and secure people & property.

1.2.4 The system should be provided with weather proof IP Fixed Camera, lens, housing & mountings to capture video with which, would be viewed & controlled through the Video Management Software, recorded and stored.

1.2.5 Supply, installation, testing & commissioning of Minimum 1 KVA UPS (with inbuilt batteries provided with back up time of 15 Minutes system) for the entire CCTV system. UPS shall be located at outdoor cabinet (Junction box) from Panel Power source to UPS and UPS to all other CCTV equipment.

1.2.6 The storage shall make continuous recording of all cameras for 24 hrs x 7 days with hardware should have adequate storage for a period of 30 days. Bidder should provide Wireless mouse for each location for viewing & managing NVR.

1.2.7 Arranging tools, tackles, machinery, test instruments, consumables, skilled manpower etc. complete in all respects for installation, testing and commissioning of the system.

1.2.8 Preparation of Functional Design Specifications, Documents, Factory Acceptance Test certificates, Site Acceptance Test & Final Acceptance Testing Procedures etc. and obtaining approval from the SMRITIVAN MEMORIAL PROJECT, BHUJ.

1.2.9 On completion of the works and before issue of certificate of completion, the bidder shall provide inbuilt documents including manuals and operating instructions, software, software keys/passwords and training to SMRITIVAN MEMORIAL PROJECT, BHUJ personnel in all aspects of system design, theory of operation of equipment, functional details, trouble shooting and familiarization with systems as per scope of work etc.

1.2.10 The intent of the specifications is to cover the turn key responsibility for (1) Site survey, selection of equipment and system engineering for design, supply, installation, integration and commissioning of CCTV based security surveillance system and various sub system required to complete the system in all respect (2) The equipment offered together with all services to be performed by the bidder as covered under the specifications of this work shall be fully in compliance with the requirements (3) The bidder shall furnish together with data requirements, complete bill of materials, drawings, technical data, information, technical literature for operation and maintenance and other details required to fully establish the capability and performance of the equipment offer.

1.2.12 The materials offered together with all services to be performed by the Bidder as covered under the specifications of this work shall be fully in Compliance with the requirements stated herein.

1.2.13 The Bidder shall be responsible for providing all materials, equipment, installation / maintenance tools and services, specified or otherwise, which are required to fulfill the intent of ensuring operation-ability/ maintainability and reliability of total materials covered under these specifications. The work and materials shall be in compliance with all applicable, statutory regulations and safety requirements applicable.

1.2.14 The interpretation of the SMRITIVAN MEMORIAL PROJECT, BHUJ in respect of the scope, details and services to be performed by the Bidder shall be binding upon the Bidder.

1.2.15 Applications of the proposed System should include tracking movements/Verification and recognition, through high quality images, of persons and Objects including vehicles. The recordings of the scene of the Jurisdiction shall be helpful in case of enquiries etc. in establishing the truth. If required for any incident SMRITIVAN MEMORIAL PROJECT, BHUJ has to rights to call vendor & Vendor has to provide event, time, day based etc. Recording to SMRITIVAN MEMORIAL PROJECT, BHUJ official.

1.2.16 Software should be able to trigger & pop up Real Time videos on trigger of any Video Analytic Alarm. The software should be able to record for all the cameras with time stamping. If required centrally VMS software through remote location/subdivision camera recording at remote server should be installed by vendor as and when required without any cost. The VMS integration should be done by awarded bidder.

1.2.17 Drawings and Data Requirements to be submitted by the Bidder for the complete system like:

- Technical Architecture of Proposed System
- Complete Bill of Quantity (BOQ)
- Complete Data Sheet
- Complete Material Specification (Compliance)
- Video Management and Software specification
- Records and Commissioning Documents.
- Diagrams and Wiring connection
- Operation and Maintenance Manual

The SMRITIVAN MEMORIAL PROJECT, BHUJ and its representative shall have the right to inspect and test each equipment at after successful installation and commissioning of the system. The inspection and testing shall include but not be limited to raw materials, Components, subassemblies, prototypes, produced units, guaranteed Performance specifications, etc. For factory inspection and testing, bidder shall arrange all that is required e.g. quality assurance personnel, space, and test Gear etc. for successfully carrying out of the work by the SMRITIVAN MEMORIAL PROJECT, BHUJ official.

During Site Acceptance Tests the performance of each equipment and system as a whole shall be measured and documented. Any failure/ equipment switchover shall be documented. List of all equipment, spares/ components etc. shall be prepared. If during 'Site Acceptance Test' any defect is noticed in the system, the Bidder shall rectify/ replace the same to the satisfaction of SMRITIVAN MEMORIAL PROJECT, BHUJ at no extra cost. It shall be explicitly understood that under no circumstances any approval of the jointly SMRITIVAN MEMORIAL PROJECT, BHUJ official & IT representative relieve the Bidder of his responsibility for material, design, quality assurance and the guaranteed performance of the system and its constituents.

Part III: -Helpdesk Services

1. Provide Help desk solution that enables end users to log their complaints or requests and tracks the same till the resolution.
2. 24 by 7 Help Desk facilities for user for the period of 3 year will be provided.
3. Bidder shall set up a centralized helpdesk to log complaints of the users and issue the log ticket number and communicate the corrective measure. Bidder shall provide Customer support interface with E-Mail, online, telephone and onsite support.

Part IV-SLA reporting

1. Provide warranty/on-site maintenance for CCTV Surveillance system that shall be supplied and installed under this procurement throughout the period of warranty as per SLA.
2. The support coverage shall be as per “Service Level Agreement”.
3. Ensure that all these equipment integrate and function as per the requirements and meet SLAs set out in this document

Part V: - Service Call Log

Bidder will have to maintain Service call register for the supplied items and submit the call log on monthly basis to SMRITIVAN as per standard format.

Part VI: - Training and Documentation

Bidder shall provide complete technical documentation of hardware, related software, operating systems configurations and customizations along with necessary diagrams. Bidder/SI Shall also provide project and design documentation. The documents shall include but not limited to:

1. Factory/ Site test certificates of various equipment supplied.
2. Original Manufacturers manual and warranty cards.
3. Installation certificates of all equipment, description of configuration profile as executed for different equipment.
4. Troubleshooting chart for all equipment, Standard OEM checklist for installation, maintenance etc., if any. Training documents

System Integrator shall provide training for minimum 1-2 days of installation, configuration, commissioning, monitoring and troubleshooting of various equipment like NVR, storage, Backup system, Mobile access associated software, etc. to SMRITIVAN MEMORIAL PROJECT, BHUJ official. The detailed contents, coverage and Methodology for training will be decided mutually by the System Integrator and SMRITIVAN MEMORIAL PROJECT, BHUJ.

a) System Integrator is to provide course material for each trainee
b) Training shall be provided through OEM certified professionals & or bidder only.

The training shall be conducted within 10 days from the date of installation completion.

Functional Requirement of surveillance Cameras	
Sr. No.	**Requirement Definition**
1.1	All cameras shall be installed at SMRITIVAN MEMORIAL PROJECT, BHUJ at Outdoor location with seamless viewing and recording required at NOC Video display
1.2	All cameras need to work on 24 X 7 basis and transmit high quality video feeds to the NOC Room, SMRITIVAN MEMORIAL PROJECT, BHUJ.
1.3	These cameras would capture the video feeds at 25 FPS and should be configurable for time based automatic FPS setting.
1.4	SMRITIVAN MEMORIAL PROJECT, BHUJ may take the regular review of the requirements for video resolution, FPS and may change these numbers to suit certain specific requirements
1.5	The cameras need to transmit quality video feed (appropriately focused, clear, un-blurred, jitter free, properly lit, unobstructed, seamlessly viewing etc.).
1.6	The highest quality of video of camera feed shall be available within the specified and designed by bidder
1.7	Cameras should be selected carefully to ensure suitability & accuracy of the information captured on the field and they should be rugged, durable & compact complying to the specification mentioned in product specification
1.8	Facility of camera, viewing and recording shall be in real-time mode 30fps / 25fps (60Hz/50Hz) or lower FPS as well as in any desired combination must be available in the system.
1.9	Camera should be connect with central storage device which can provide storage up to 30 days of recording at 25 FPS & HD Quality. In the event of failure of connectivity of camera to the central server locations the camera shall record video on storage automatically. When required with the server recording such that no manual intervention is required to transfer the storage based recordings to server.

1.10	Outdoor cameras should cover the SMRITIVAN MEMORIAL PROJECT, BHUJ area to the maximum and monitor the activity. Each location has specific requirements and location of camera should ensure coverage of all critical areas and maximum general area
1.11	Activity at each entry gate at SMRITIVAN should be covered. The Camera should be able to capture person/vehicle entering and leaving the premises.
1.12	Wherever required the activity nearby boundary wall and the surrounding area in front of the gate should be captured continuously by mounting multi sensor 360 degree Camera to cover the outside perimeter also
1.13	Camera should capture clear video feed during night time. Cameras shall have ability to capture and generate viewing frame in actual colors at minimum lux defined
1.14	30 Meters Infra-Red capability should be provided with each Camera to cover its Field of View, upto 30 meter face of a person shall be recognizable
1.15	Camera should be PoE+ Enabled / direct powered
1.16	Camera should equipped with wide range of intelligent analytics features to help user to detect different types of incidents.
Functional Requirement of Video Management System (VMS)	
Sr. No.	**Requirement Definition**
2.1	Minimum 20 number of client interface is required to view all cameras however increase in number of client shall not be the technical limitation
2.2	The Video Management System (VMS) should provide the software and hardware infrastructure and tools for the management of video surveillance systNMS, including the recording, transmission, viewing, analytics and event management of video, audio and other data.
2.3	The VMS should seamlessly support audio and video inputs from all types of video recorders: Networked Video Recorders (NVR), Smart Video Recorders (SVR) or Intelligent Video Recorders (IVR) and combinations of the above.
2.4	VMS System should not have any limitation on the number of cameras to be connected for Surveillance, Monitoring and recording. Any increase in the no. of cameras should be possible by augmentation of Hardware components.
2.5	System shall support distributed viewing of any camera in the system using Video walls or big screen displays
2.6	The VMS should provide features and capabilities allowing full switching and control, configuration of the VMS inputs via a GUI and/or CCTV keyboard.
2.7	The VMS should have a central database for consistent configuration of site equipment and user data.
2.8	The VMS should provide viewing capabilities by web browsing and application based supporting laptops, smart phones and tablets on Windows, Android and IOS platform for remote viewing. The application based minimum clients required for remote viewing is 20 nos.

2.9	The VMS should have built-in Management Server, Recording Server, Metadata Server and Recording Failover Server
2.10	The VMS should support remote independent sites that are connected to a central site, allowing to have a hierarchy of independent VMS systNMS.
2.11	The VMS must have rich user interface that provides one-click access, drag-drop, context menu, shortcut keys, customizable GUI etc. to enhance operational efficiently in daily tasks and maintain The VMS shall have ability to respond fast & shall be applicable to all processes, functions, features, and screens of a video management system.
	This is a functional requirement with basic functionality being asked are: a. The system should provide context sensitive help.
	b. Assistance based on Module/ screen/ operations a user is trying to view.
	c. Tool tips according to user actions as the user moves around the interface.
2.12	The VMS should provide diagnostic Service and retrieving important logs from server and client for troubleshooting
2.13	The VMS shall have ability to easily install, configure, modify, search and remove surveillance devices with automatic discovery of IP devices.
2.14	The VMS shall have ability to logically group devices based on installation location, device type, configuration type or any other predefined rules. Individual cameras/devices should have the capability to inherit rules from parent group/subgroup.
2.15	The VMS shall have ability to search and view device(s) based on standard criteria like ID, Name, Location, Group, Type etc.
2.16	The VMS shall have ability to draw and configure e-map of surveillance facility, choose back-ground images, User-definable symbols (for deployed devices)and programmable functions, e.g. hyperlinks, controlling video feed, initialing alarms etc.
2.17	System should be able to be integrated with Event Management / Incident Management System.
2.18	VMS should be compatible with Open platform support multiple camera brands, models and RTSP stream, UPnP search and Onvif ProfileS. It should be able to configure camera parameters including video format, resolution, frame rate, and lens setting
2.19	The VMS software shall have an open architecture supporting IP cameras from multiple manufacturers providing best-of-breed solutions ranging from low-cost, entry-level features to high-resolution, megapixel features. The VMS system shall be a scalable client–server architecture built using well known operating systNMS.
2.20	The System Administration Server shall provide a feature-rich administration client for system configuration and day-to-day administration of the system
2.21	The System Administration Server shall support different logs related to the Management Server
	1. System Log
	2. Audit Log
	3. Alert Log

	4. Event Log
2.22	The system shall support the use of rules to determine when specific actions occur. Rules shall define what actions shall be carried out under specific conditions. The system shall support rule initiated actions such as:
	1. Start and stop recording
	2. Set non-default live frame rate
	3. Set non-default recording rate
	4. Start and stop PTZ patrolling
	5. Send notifications via email
	6. Pop-up video on designated Client Monitor recipients
2.23	The VMS software shall allow the user to have any Combination of VMS client applications running on any of the supported operating systNMS be able to connect to any of the VMS servers running on any of the supported operating systNMS.
2.24	The VMS software shall have the capability to run multiple client applications simultaneously on one workstation with multiple monitors.
2.25	The VMS should be able to stream up to 960 ch live viewing connections per server to multiple clients simultaneously
2.26	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
2.27	Video Management System Servers will maintain coherent operations between all servers and workstations. It will host Control Center, where the system is administered, and System database. It will monitor one or more Recorder servers on separate dedicated computers, storage devices, IP-compatible devices, and one or more workstation. All network communication will also be is performed via the Video Management servers.
2.28	Video Recorder Server will store and processes video with the help of Video Management System
2.29	Video Analytics Software will analyze live video in real-time to detect, identify, and track objects of interest. It will automatically issue alerts to the appropriate personnel and initiate appropriate follow-up action according to predefined rules. This software will also manage sensors; each sensor will monitor a single video feed for security events. The video feeds will be connected over the network to the Video Analytics Server. Sensors on the Video Analytics Server will perform all event detection functions and should cover multiple events at any given point also. The recorded video will also be analyzed by it for post event analysis in the recorded feed.
2.30	Scalable Video Quality Recording enables seamless merging of video stored centrally in the recording server, and video retrieved from a camera associated edge storage, or interconnected system.
2.31	The VMS application should include applications for viewing and investigation of video, user policy setup, site setup and configurations and an application for monitoring and providing alarms of failure or errors of any of the VMS components.

2.32	The VMS should be suitable for 'pure IP' installations using the components (recorders, management application etc.).
2.33	The VMS operator application should allow authorized users to monitor and playback video from cameras connected to the VMS, on client location
2.34	User shall be able to present several types of sensors per viewing window, and several pages can be created as tabs, allowing multi functionality viewing window
2.35	System should graphically display camera states which should indicate - Recording status - specifically indicating not recording with time on unrecorded footage
	Connection status - connected / disconnected Camera Type with location and Camera Id.
	Alarms - sensors, or custom rule or manual Camera Mode and any other configuration details
2.36	Setup Virtual matrix/ video wall with customizable rules & priorities.
2.37	The VMS shall have ability to enforce access privileges (View /Add /Edit/ Remove) to device(s) or group(s).
2.38	Provision for primary and backup storage settings for individual camera feeds.
2.39	Map Interface: the user should be able to open a page layout that includes maps with other options. He should be able to click on the icon on the map / or point / area on map to create the view in the pop up window. Event triggers should also be shown on the map like alarms/triggers, change in state or any other incident. Maps should be searchable and should show camera and coverage direction on it.
2.40	The VMS shall have ability to configure multiple streams with different quality parameters e.g. Codec (H.265, H.264, MJPEG, MPEG4 and MxPEG) , resolution, frame & bit rate etc.
2.41	All streams to the control center shall be available in real-time and at full resolution. Resolution and other related parameters shall be configurable by the administrator in order to provide for network constraints
2.42	Multiple monitor support: The system should allow connecting multiple monitors on single client workstation (loaded with suitable graphics card) and display different contents on each of the connected monitor.
2.43	All panes / tiles should indicate mode (live or recoded), source (camera name/location) and date/time and applied quality information (FPS, CODEC). The font color shall be changed automatically in sync with the video/image to have a clear text reading at any point of time. A matrix view should support minimum 2x2, 2X3, 3x3, 4x4, 5x5 on small monitors and formats on video wall and any number of multiple screen divisions.
2.44	This is a functional requirement with basic functionality being asked are
	a. The system should offer a separate control panel for PTZ operations.
	b. It should have specific buttons /interface for eight directional movement, zoom in, zoom out and home position.

	c. It should also have presets, patterns and tours for easy selection of ptz movement.
	d. A dedicated joystick , which can also be used for movement.
2.45	User should be able to create PTZ profiles / preset views. They should be easy to configure and select. There should be a default preset available.
2.46	This is a functional requirement with basic functionality being asked are- The system should along with the menu driven interface also provide configurable custom keyboard shortcut keys. - These shortcut keys can be attributed to and used to specific functions like quickly switching between different modules/screens, change views or panes/tiles and to carry out playback functions.
2.47	Snapshots: System should allow creating a still image from live or recorded feed and storing it into a workstation.
2.48	User shall be able to switch from real time live monitoring to a playback and the playback time by dragging the video player timeline. He should also have the ability to resume real time monitoring at any time with one click of a button.
2.49	The VMS shall have ability to boost video quality manually (by operators) or automatically as configured on event trigger or as scheduled.
2.50	Playback should never stop as long as there's available recorded video
2.51	Instant replay facility with configurable replay-duration.
2.52	The VMS shall have ability to bookmark / add-to-favorites in both live and playback modes. Bookmarks should be user specific and managed (create, share with other users, search, remove, add comment) by the owner.
2.53	The channels that are part of a synchronized playback session shall stay in a session even when changing from playback to live video and back to playback.
2.54	The VMS should allow adding video channels to, and removing from a synchronized playback session by clicking a button on playing video channels. Playback synchronization should support advanced playback operations including fast/slow forward/reverse playback, pause and frame by frame.
2.55	The VMS should enable live monitoring, reconstructing the live monitoring view post a failure and as a reaction to other conditions including a sensor's state change or an event, as well as based on scheduling.
2.56	User should have the access to call up cameras/tours on external monitors connected to the VMS decoders and they should be able to switch to an external monitor view mode by selecting a specific control room/ monitor layout GUI. User should be able to control playback session, playing on the wall, even if it was started by another authorized user.
2.57	Digital zoom to enlarge portion of an image to provide superior zooming capability.

2.58	Export feature: The system should allow users to export Video evidences in open format for internal investigation or to share authentic proof to public authorities and outside agencies. Alternatively the bidder may provide the required player/software to run the exported video file if the VMS not support to export in AVI or other standard format. The system should offer options to enable watermarking camera name & timestamp and also encrypt or apply password protection to the exported clips. It should be able to export H.264/ H.265 compressed video to a standard MKV file format without transcoding. Exporting should be a background job and should not lock any other system operations. Time interval based export feature is to be made available. Following standards are to be supported - AVI, ASF and MOV and Still image JPEG
2.59	The system should offer options to set Hue, Saturation, Brightness, Contrast, Sharpness etc.
2.60	Video Lock: The system should allow users to lock the relevant portion of video recording related to any event to avoid the deletion of the important incidence from the system before its retained/backed-up.
2.61	Simultaneous digital multi-channel MJPEG, MPEG4, MPEG-4 ASP, MxPEG, H.264 and H.265 video recording of IP cameras without any software limitations on number of cameras per server
2.62	Route traffic between multiple connected cameras and multiple clients requesting live view, playback and export
2.63	Multi-live streaming gives the possibility to define multiple streams for live viewing with different properties.
2.64	A dedicated recording stream enables optimization stream properties (resolutions, encodings and frame rate) for video storage and forensic usage
2.65	Secure high speed recording database holding JPEG images or MPEG4, MPEG-4 ASP, MxPEG, H.264 and H.265 streams
2.66	System should have a capability to Record more than 30 frames per second per camera, limited only by hardware
2.67	Recording quality shall have no software limitations
2.68	Scalable Video Quality Recording enables seamless merging of video stored centrally in the recording server, and video retrieved from a camera associated edge storage, or interconnected system.
	Alarm Management
2.69	The alarm management module shall allow for continuous monitoring of the operational status and event-triggered alarms from various system servers, cameras and other devices. The alarm management module shall provide a real-time overview of alarm status or technical problNMS while allowing for immediate visual verification and troubleshooting.
2.70	System should support alarms based on video analytics application, API based inputs, configured triggers and manual / edge device events
2.71	User should be notified against each alarm with indicating the camera in the main list, video popup, API notification to integrated systNMS and other mediums to notify the user and system/sensors.

2.72	The system should have configurable alarms with multiple associated automatic actions. The user should be able to configure the alarm and set specific actions like:
	1- Send a specific command to Camera for example to zoom-in or zoomout or pan to particular location or tilt to particular location etc.
	2- A specific set of camera to be displayed on external monitor
	3- Display Playback Video and/or Live Video
	4- Close Video
	5- Start and/or stop virtual tour of the relevant camera
	6- Start and/or Stop the recording from a relevant camera
	7- On receiving an alarm, play a particular sound
	8- Send a http request
	9- Pan/Tilt/Zoom the PTZ camera to a preset
	10- Configure to run an external application on operator workstation
	11- Locate the alarm cause and take appropriate action
2.73	There should be a workflow management for configuring each alarm, which can be reset based on predefined configuration and/or manually.
2.74	There should be alarm escalation system like sending and SMS notification to the set mobile or email notification.
2.75	This is a functional requirement with the following functionality required:- The system should provide centralized Camera tampering solution.- It should send alerts when following tampering is autodetected
	1- Scene too brignt / oversaturated
	2- Scene too dark
	3- Camera field view is blocked fully or partially
	4- Unintentional Camera redirection
	5- Unfocused or blurred view
	6- any other unusual camera behavior
	The System should be able to detect tampering on any IP camera that has been integrated in the VMS and send alerts through SMS/ Email for any tampering detected, to the competent authority as well as the Master and Standby Control Rooms.
	System Analytics
2.76	The system will alert the operator when configured video analytics event occur. They include:
	- Area Obstruction Detection
	- Loitering Detection
	- Virtual Fence / Tress Passing / Tripwire
	- Camera Tampering Alarm
	- Camera Alignment Detection
	- Left Object Detection
	- PTZ Auto Tracking
	- Classified Item Detection

2.77	The system will also store all the alerts and should be easy to search and retrieve the corresponding clip.
	It should have facility to run analytics on the recorded video for fast investigation purpose.
	Analytics for all cameras shall be available, either camera based or server based. Backup of analytic seers shall be also considered along with storage and viewing at Smritivan NOC room
	In case of Server based Analytics, Bidder has to consider Licenses for all.
	the cameras. Bidder has to provide complete solution based on RFP requirements.
	Incident management
2.78	Live alert of incidents to the operator.
2.79	Single-point alarm management of all internal system alarms and external security alarms
2.80	The alarms should work according to the defined process and instructions set by the operator and should become actionable when the conditions of the procedure is met. Currently there is no legacy incident management system although locations being a sensitive area, there are set operating guidelines.
2.81	An alarm location map can be linked to each alarm providing instant situational awareness to the operator dealing with the alarm
2.82	Customizable alarm priorities allow operators to focus on the most critical alarms
2.83	Customizable alarm categories enable logical grouping of alarms dependent on their type and nature
2.84	Alarm handling result code enables tracking of the outcome of the alarms
2.85	A set of alarm handling reports gives valuable information about alarm inflow and alarm handling performance
2.86	Extensive logging of alarms is to be provided
2.87	The snapshot function enables operators to produce instant visual documentation of a camera by saving the camera image to a file, or sending it directly to a printer and email
2.88	The storyboarding function makes it possible to include video sequences from different or overlapping time intervals from different cameras in the one.
2.89	Export preview with looped playback
2.90	This is a functional requirement and the following basic functionality is required: Password Protection and Encryption of exported video content with a choice of encryption standards which includes 56-bit DES 128, 192 and 256 bit AES.
2.91	Create evidence material. Following standards are to be supported - AVI /MKV / MP4 /MJPEG and Still image JPEG
2.92	Prevention of undesirable distribution of sensitive evidence material shall be available
2.93	Bulk camera export in multiple formats to multiple destinations/folders, including direct export to optical media, results in more efficient video exports and more secure handling of evidence material.
2.94	In media player format comments can be added as pre/post slides

2.95	Print incident reports including image, surveillance details and free-text user comments
2.96	Seamless geo-navigation supporting map services such as Bing, Google and Open Street Maps , the operator should be able to see and navigate to specific location through the map.
Functional Requirement of NMS	
Sr. No.	**Requirement Definition**
3.1	The Functional Requirement stated in this section are suggestive and Bidder should propose a system which will enable SMRITIVAN MEMORIAL PROJECT, BHUJ to monitor the SLAs and receive various reports on Uptime and Downtime of the entire surveillance system provided by the bidder.
3.2	The NMS is an important requirement of this Project. The Centralized NMS solution needs to have a standalone system and has to be technology / vendor agnostic that shall enable to introduce any additional technology / vendor in the network. Such a network as and when introduced should seamlessly integrate with the solution proposed and continue to provide the services right since the day one of its introduction. It must be a centralized monitoring solution for all IT assets (including servers, network equipment etc.) The Monitoring Solution should provide Unified Architectural design offering seamless common functions including but not limited to:
	- Event and Alarm management,
	- Auto-discovery of the IT environment,
	- Performance and availability management
	- Correlation and root cause analysis
	- SLA Management, Email notifications
	- Reporting and analytics
	- Configuration and Customization.
3.3	The SLA system should support the collection data from various sources in order to calculate Uptime / Performance SLAs.
3.4	The system must follow governance, compliance and content validations to improve standardization of service level contracts.
3.5	Application should be pre-configured so as to allow the users to generate timely reports on the SLAs on various parameters.
3.6	The system must support Service Level Agreements & Lifecycle Management including Version Control, Status Control, Effectively and audit Trail to ensure accountability
3.7	The system should support requirements of the auditors requiring technical audit of the whole system
3.8	The system must support Templates for report generation, Report Filtering and Consolidation and Context sensitive Drill-down on specific report data
3.9	Automatic Report creation, execution and Scheduling, must support variety of export Formats including .doc/.docx/.pdf etc.
3.10	Support real-time reports (like at-a-glance status) as well as historical analysis reports

3.11	System should provide Fault, Configuration & Performance management of the entire infrastructure and should monitor real time IP\SNMP enabled devices such as Routers, Switches, Cameras, etc.
	NMS should intelligently analyse fault conditions, detecting problNMS before they become network disruptions.
3.12	Network Management system shall integrate with SLA & Contract Management system in order to supply KPI metrics like availability, utilization in order to measure central SLA's and calculate penalties.
3.13	Solution should provide centralized monitoring console displaying network topology map from central location to base location and Sublocation, DR site
3.14	System must use advanced root-cause analysis techniques and policy based condition correlation technology for comprehensive analysis of infrastructure faults.
3.15	System should be able to clearly identify configuration changes as root cause of network problNMS and administrators should receive an alert in case of any change made on Networking devices (IP\SNMP Devices) spread across locations. NMS should allow management support for new devices added to the network. NMS should offer intelligent, automatic discovery of network devices to create corresponding topology views of the network.
3.16	Network Performance management system should provide predictive performance monitoring and should be able to auto-calculate resource utilization baselines for the entire managed systNMS and networks and allow user to set corresponding upper and lower threshold limits based on baseline data instead of setting up manual thresholds for monitored devices.
3.17	The system must support the ability to create reports that allow the administrators to search all IP traffic over a specified historical period, for a variety of conditions for critical router interfaces. NMS database backup should hold data of at least 2 months
3.18	System should integrate with network performance management system and support operating system monitoring for various platforms
3.19	System/ deployed tool should be able to monitor various operating system parameters such as processors, memory, files, services, processes, file systNMS, etc. where applicable.
3.20	The solution should provide a unified web based console, which consolidates all aspects of role based access under a single console.
3.21	The solution should be scalable to monitor & manage more than 1000 plus devices and minimum 3 reference case studies should be provided.
3.22	The OEM should have a support center in India.
3.23	The solution should be capable of running in Linux platform with open source database as backend and should be 64-bit application to fully utilize the server resources on which it is installed
3.24	The solution should be available as Commercial-Off-The-Shelf (COTS) software
3.25	The tool must be certified for ITIL v3 on at least 13 ITIL processes and certificate must be provided on request

3.26	The organization should have ISO 270001 certification for their internal processes and certificate must be provided
3.27	The solution should have dual-stack IP support (support both IPv4 and IPv6) and should be completely vendor-agnostic in nature to be able to monitor a multi-vendor environment
3.28	The solution should be a unified system which can monitor networks, servers, apps and any IT or Non-IT Communicable device (ex.: RF device, VSAT etc.)
3.29	The solution should be completely multi-tenant where in every module and system being used can be assigned to a specific set of users or a group of users.
3.30	The system should be capable to retrieve and show fault, performance , inventory and SLA data in a single dynamic view with option to export the views into PDF, Word, Excel, HTML etc. formats depending on the need. System should have capability to add any additional information about the nodes via custom fields.
3.31	System should have Node Tags for device grouping and resource/interface tagging for element grouping. Apart from Node Tags additionally system should have options to do device grouping based on default fields and customer fields
3.32	No restriction in the number of level of grouping for the devices should be supported and provide the option to increase the grouping based on the need without affecting the existing grouping structure. System should also provides the option to create the grouping based on the service offered to customer and map all the devices involved in the specific service till the component / resource level
3.33	Provides the option to have the portal account to the end customers with restricted views limits to their specific infrastructure. System should have the capability to be implement in DMZ and non-DMZ zone with adequate security.
3.34	Tool must provide Role based Access Control option
3.35	The system should have an integrated ITILv3 certified ITSM tool from the same OEM. In future, it should be possible to use the service management features like Incident Logging, Viewing, Assignment, Escalation, Reporting, SLA Management etc. in the Service Manager tool GUI. The integration should be bi-directional in nature.
3.36	Tool must provide intelligent Email-to-Incident feature in which tool admin has the option to allow certain domains for automatic conversion of emails to tickets. Tool should merge all subsequent email communication for a particular email-to-incident ticket into the same ticket in the form of a message thread. Tool should be intelligent enough to understand email conversation chains for merging emails to a incident. Merging logic should be not only based on Ticket ID but also on email sender, cc responses to that email chain
3.37	Tool should be able to provide real-time Email, SMS Notification alerts to notify respective users about any changes in ticket state and status. Tool should provide Email Communication Interface to allow technicians to send replies to customers / end users from the tool GUI and Record all the Email Communication in Chronological Order
3.38	The integrated ITSM module should have its own Android & IOS app

3.39	Integrated ITSM tool must have option to publish announcements and surveys for notifying end users / requesters about any important information with option to schedule it for certain time period along with questions to get their feedback on the efficiency of the IT support team
3.40	System should have a bi-directional integrated NCCM tool with option to use NCCM features in future easily by enabling the license for it without having to do any additional installations. The integration should allow assets and topology to sync from the NMS module to the NCCM features for helping in Root-Cause-Analysis of faults
3.41	System should have option for multiple options for discovery including IP address based discovery, IP address range discovery, CSV based discovery for bulk discovery and it should allow options to add custom fields to support customer specific data to upload during discovery
3.42	The system should fetch topology via SNMP for ARP tables from routers , MAC tables from layer 2 switches, cisco Discovery Protocol, Link Layer Discovery Protocol, Foundry Discovery Protocol or Synoptics Network Management Protocol. The discovery should be automated and continuous.
3.43	Discovery has to work intelligently by identifying the device in the network by the given IP range and categorize into network devices and servers with vendor and model details.
3.44	Automatically learn devices that supports SNMP, HTTP, Ping, SMTP, POP3, WMI,JMX, SOAP, REST API,PDC, SSH and Telnet along with any required protocol to communicate to the devices.
3.45	System should support global threshold and it should have option to define individual resource/interface statistics level threshold
3.46	System should have built in self learning algorithms to auto baseline and auto calculate thresholds of components or nodes to enable tool admin to start the monitoring with zero threshold configurations
3.47	Configurable parameters like frequency, data duration, resolution duration, sigma based polarity value, reset points should be available
3.48	All thresholds should have set point , reset point, polarity , set point message and reset point message for ease of use.
3.49	Detect & highlight faults (abnormal situations) in near real-time occurring anywhere within the monitored IT Infrastructure
3.50	Provides Filtering, De-duplication, Holding, Suppression and Correlation capability to let user focus on the critical event that affects the business and business processes
3.51	Provides multi-level (preferably six-level) Severity definition, will handle events automatically and inform the designated person as per operational requirement

3.52	System should support separate Rule Engine based alarms apart from the generic threshold. a. Should have capability to configure Device Group based, Node Based, Resources/Interface based, Aggregation link based. b. On Selection of Nodes/Resources/Aggregation links it have flexibility to filter based on fields available in node information c. Rules should have option to apply configuration on top of performance value or based on configured threshold alarms d. Rules should have option configure the breach based on min, max and average values e. Should have option to configure rules n repeat counters f. Should have options to select custom alarm and clear alarm messages for individual configured rules g. Should have option to send severity levels like error, warning and information h. Notifications support based on configured rules
3.53	Provides alarm suppression with hold time and aid in prevention of flooding
3.54	Sends alert via E-mail, SMS, Execute Batch file, SNMP Trap, XML notification, Pop-up window and Audio alert
3.55	Monitors all traffic from all the interfaces of the network device. Provides traffic Utilization based on individual interface level, nodes level or based on the group by location, branch, departments etc.… as an Avg, Min and Max bandwidth, utilization, throughput or any custom monitoring parameters.
3.56	Provision to change the polling interval to any frequency depending on the priority till the individual component / resource level like each interface might have the different polling interval in the same device based of the criticality and importance of service customer
3.57	System should have capability to configure business , non-business hours or custom time polling. These configuration should be available for every device as well as every component in the device.
3.58	Provision to disable and enable the polling of specific type of devices
3.59	System should have capability to configure the maintenance period for any device. When device is in maintenance period there is no polling done and the SLA clock on the device is stopped.
3.60	SLA calculation / Isolation report should be made with the consideration of both the Primary and Secondary link together instead of individual link based. The downtime calculation will be measured when both the links are down for internal reporting and link based for ISP reporting. System should provide the flexible configuration in UI itself based on user needs
3.61	The solution should be able to stop SLA calculation for every node in case of know downtimes. These should be a one click alarm masking capability in the system
3.62	Provide a notification mechanism that allows administrator to define what notification channel to be used in different time of days, and able to trigger multiple notifications to alert multiple person and actions

3.63	Provide escalation and acknowledgement function to provide the mechanism to ensure alternative personnel will be alerted when there is a critical situation and acknowledgement mechanism for generated alerts. The escalation should be available for any number of hierarchical sequence.
3.64	Provide standard reports that display current status of nodes and interfaces. Reports could be viewed on daily graph (5 minute average), weekly graph (1 hour average minute average), monthly graph (1 hour average) and yearly graph (1 day average)
3.65	Provide online and offline reports that allow the user to view the present usage of their devices. Reports generates should be exportable in the format of HTML, PDF, Excel and CSV. Allows end-users to browse all reports using any web browser like Internet Explorer, Mozilla Firefox, Google Chrome etc. without the need to install any report specific software
3.66	Automatically generate daily reports that provide a summary of the IT Infrastructure as well as custom Reports and that are automatically sent by email at a pre-defined schedule to any recipient or save into any specific folder or drive.
3.67	Supports instant diagnosis of the node status through Ping, Telnet and SNMPwalk
3.68	Support Real-Time report generation for checking continuous reachability of target device
3.69	System should provide many different types of topology representation. To perform the following: 1. Display physical connections of the different devices being monitored in the system 2. Display flat maps of the entire network or networks in a single view 3. Display customer maps based on user configurations 4. Display maps based on geo locations
3.70	Automatically learn IP Networks and their segments, LANs, hosts, switches, routers, firewalls etc. and to establish the connections and to correlate
3.71	Tool should have option to display distance between devices in Topology Maps especially for branch gateway devices
3.72	Provides provision to draw & map user specific network diagram
3.73	The tool should have Integrated Web based feature to build Network Diagram, No separate client window to configure network Diagram. The builder should be similar to MS Visio with all pre-loaded shapes and icons.
3.74	It should be a Drag & Drop based Network Diagram builder, Dynamically Upload Images, Customizable objects to support multiple vendors, capability to export maps in an XML format and upload to any other system.
3.75	Panel View a. Panel view should look similar to the actual device front panel b. System should automatically detect the device model display the right panel without any additional configuration c. Panel should show all the monitored interface with status d. Fan status with live fan icon and LED status for power

3.76	Tool should have complete inventory information of the assets discovered along with an option to fetch the target network device EoL / EoS information if required
3.77	Tool must support CLI-based network device configuration snapshot management including backup of configuration files, traffic logs, messages etc. , pushing configuration files to target network devices, with option to perform remote firmware upgrades.
3.78	The configuration changes to be done on target network devices must follow an approval-based system wherein changes can be performed only after required approvals are passed. Tool must have in-built approval mechanism along with option to integrate with Change Management module of other ITSM tools for the approval process.
3.79	Tool must provide option for target CLI-based network device vulnerability detection based on their model number and firmware version. It should also provide options to remedy the vulnerabilities with help of pre-configured scripts for certain vulnerability types.
3.80	Tool must provide option to perform standard compliance checks like PCI-DSS, NIST, DISA etc. across all target CLI-based network devices
3.81	Tool must provide an option for taking remote access via Telnet / SSH to target CLI-based Network Devices with an option to record all sessions to capture all commands being executed on the remote devices. The tool must allow session relay wherein a higher-privileged user can view the ongoing CLI session of a lower-privileged user in real-time from the tool GUI. The sessions should be saved for historical analysis with flexible filter options like searching for sessions in which a particular command has been executed.
3.82	The proposed monitoring solution should be able to monitor network traffic by capturing flow data from network devices, including Cisco Netflow v5 or v9, Juniper J-Flow, IPFIX, sFlow, NetStream data and also sampled Netflow data. Solution must be able to store ALL flows without any rollups or loss for retention period - for security and audit purposes.
3.83	Should identify which users, applications, protocols, countries, AS numbers, top routers, and top interfaces are consuming the most bandwidth
3.84	System should have capability to alternatively capture traffic data via packet capture.
3.85	Should be able to associate traffic coming from different sources to application names
3.86	Should be able to receive flows from non-SNMP-enabled devices, like VMware vSwitch
3.87	Should monitor Type of Service (ToS), Differentiated Services Codepoint (DSCP), and Per-Hop Behavior (PHB),BGP AS and NEXT HOP
3.88	Should provide flow analysis with 1-minute granularity and The solution should be able to monitor up to 5 million flows per second, and should employs advanced optimization methods
3.89	Tool should allow QoS monitoring of WAN links across multiple technologies like Cisco IPSLA, Juniper RPM, Huawei NQA etc. across multiple protocols like HTTP, TCP, FTP, DNS etc.

3.90	QoS paramters should include link response time, link-level latency, link-level packet loss, link-level jitter, Round-Trip-Time etc.
3.91	Should monitor Class-Based Quality of Service (CBQoS) to find out if traffic prioritization policies are effective and if business-critical applications have network traffic priority. Should also support CBQoS Nested policies
3.92	Tool should have option to collect and store system logs from target devices including firewalls, routers, switches, WLC, servers, applications & databases
3.93	Tool should have multiple filtering options for incoming system logs based on target device, log_ID, severity, level, message, OS type, application / database etc.
3.94	Tool should have option to export specific syslog messages to users via email / SMS
3.95	System should support VM, Hypervisor and Cluster monitoring from different vendors like VMWare, Citrix, Nutanix, Linux etc.
3.96	System licensing should be based only on Physical Hosts and not charge separately for individual guest VMs running on VM Hosts
3.97	System show have capability to monitor availability and performance of industry standard web server like IIS / Tomcat / Apache / Jboss, email server like Exchange / Zimbra / Lotus Notes, and databases like Oracle / MSSQL / MySQL / PostgreSQL etc.
3.98	System show have capability to monitor HTTP service,HTTPS service,FTP server statistics, POP/SMTP services,ICMP services or any customer specific port based systems
3.99	The tool should have option to be deployed in HA mode (High Availability) for redundancy purpose. Integration should provide the option in both north as well as south bound integration on each module level. Any fault details should be able to send to third party CRM, Customer Portal, UNMS or even EMS if needed using the Trap, XML and even direct database query integration. Provide 12+ open APIs in the system which can be used by customers for integrating their own systems. Integration should provide the option in both north as well as south bound integration using multiple options like RestAPI, XML, SOAP, Corba etc. on each module level. Any fault details should be able to send to third party CRM, Customer Portal, UNMS or even EMS if needed using the Trap, XML and even direct database query integration

Functional Requirement of Storage / Recording	
Sr. No.	**Requirement Definition**
4.1	30 days of storage for 24 X 7 for all installed cameras at 1080P @ 25 fps
4.2	These cameras would capture the video feeds at 25 FPS and should be configurable for time based automatic FPS setting.
4.3	Cabling and accessories required to connect Storage will be in the scope of bidder

4.4	Bidder is expected to provide Unified storage solution (or a Combination of NAS/Scale-out NAS/SAN) supporting required protocols (IP Based / iSCSI / FC / NFS / CIFS etc.) for the offered storage solution, meeting benchmark performance parameters specified in SLA
4.5	Solution proposed should yield low cost per TB, while meeting the performance parameters
4.6	Licenses for the actual protocols used in the storage solution must be provided from day 1.
4.7	Primary Storage to have 100% capacity for all cameras at locations for 30 Days as per recording parameters for Master Control Room and for 30 Days for Standby Control Room
4.8	To store video stream and other data as required, to meet the archival requirement for different type of video feeds
4.9	Storage solution should be capable of scaling vertically & horizontally
4.10	The hardware platform should have Rack mounted form-factor and modular design to support controllers and disk drives expansion
4.11	The storage system shall be capable of providing host connectivity as per solution offered (Unified/SAN/NAS/Scale out NAS) as to meet operational SLA requirements.
4.12	The controllers / Storage nodes should be upgradable seamlessly, without any disruptions / downtime to production workflow for performance, capacity enhancement and software / firmware upgrades.
4.13	The solution should support various RAID levels (Minimum RAID5 or equivalent)
4.14	Minimum 128 GB of useable cache spread across all controllers of the storage system. If cache is provided in additional hardware for unified storage solution, then cache must be over and above 128 GB Cache shall be completely dynamic for read and write operations
4.15	The Storage System should be able to protect the data against single point of failure with respect to hard disks, connectivity interfaces, controller, fans and hot swappable power supplies
4.16	All the necessary software (GUI Based) to configure and manage the storage space, RAID configuration, logical drives allocation, snapshots etc. are to be provided for the entire system proposed.
4.17	Licenses for the storage management software should include disk capacity / count of the complete solution and any additional disks to be plugged-in in the future, up to the max disk capacity of the existing controllers/units.
4.18	Storage Management software Should also include storage performance monitoring and management software and should provide the functionality of proactive monitoring of Disk drive and Storage system for all possible disk failures
4.19	Storage Management software should be able to take "snapshots" (or equivalent feature) of the stored data to another logical drive for backup purposes
4.20	The storage array must have complete cache protection mechanism either by de-staging data to disk or providing complete cache data protection with battery backup for up to 4 hours

4.21	This can be on any media such as Tapes, Disks, Disk systNMS, etc. or its combination. (so as to arrive at lower cost per TB)

General Requirements	
Sr. No.	**Requirement Definition**
5.1	These requirements are in addition with the terms mentioned elsewhere in the RFP.
5.2	Bidder should use the industry best practices while positioning and mounting the cameras.
5.3	Bidder should ensure Project objectives are met while positioning the cameras, creating the required field of view
5.4	Ensure appropriate housing is provided to protect camera from the on field challenges
5.5	Carry out proper adjustments to have the best possible image
5.6	Ensure that the pole / mast implementation is vibration resistant
5.7	All active equipment like network switch, online UPS, and other components are required to put into IP 55 rated outdoor junction boxes. Junction box should have outdoor paint to have long lasting sustainability. Junction box should have fan and filter at air inlet level to avoid dust enter into junction box.
5.8	Network Switch should be industrial grade and able to operate at 70 degree Celsius temperature as per BHUJ location requirement. All switches should be from same manufacturer
5.9	All passive components should be UL listed / DNV/3P approved tested. All passive components like Optical fiber cable, fiber patch panel, CAT6 outdoor cable, Jack, patch cords, face plate etc should be from single OEM.
5.10	Online UPS 1 KVA and 10KVA capacity should be installed as per standard practice. The UPS should come with standard make SMF batteries along with accessories like battery stand which cable to take load of battery weight. The connection cable should be provide to connect battery to UPS, link cable, SNMP Card, etc should be provide along with UPS. Bidder has to consider stabilizer if voltage fluctuation is on the site. Bidder has to consider all aspects to make UPS live and provide smooth power to equipment 24 X 7
5.11	Successful Bidder will have to identify and obtain necessary legal / statutory clearances for erecting the poles and installing cameras, for provisioning of the required power, etc. It is important to mention that a timely communication and required follow-up will be required by the Successful Bidder for the clearances.
5.12	The Successful Bidder will be responsible for the solution deployment / customization for implementing end-to-end Surveillance System including its integration with other systems.
5.13	The application will be customized to meet the Project objectives
5.14	The Bidder will ensure that the best practices for software development and customization are used during the software development/customization and implementation exercise.

5.15	Software development/customization based on the functional requirement specifications, system requirement specifications, software requirement specifications and solution designs as finalized and approved by SMRITIVAN MEMORIAL PROJECT, BHUJ.
5.16	Delivering the Surveillance System, along with all of the necessary modules and additional functionalities/ integrated products, utilities, system drivers and documentation consistent with proven standards, including product updates, technology upgrades and patches to run on the selected operating system(s) and hardware according to the solution.
5.17	Deployment and commissioning of Surveillance System with all the necessary solution elements at the Data Centre. It is pertinent to mention that application hosted at the Data Centre shall be accessible by the intended users as desired under this Project.
5.18	The Bidder shall be completely responsible for the sourcing, installation, commissioning, testing and certification of the necessary software licenses and infrastructure required to deploy the solution at the Data Centers.
5.19	The Bidder shall be required to submit a detailed installation report post installation of all the equipment at approved locations. The report shall be utilized during the acceptance testing period of the Project to verify the actual quantity of the equipment supplied and commissioned under the Project.
5.20	Proper FAT, UAT and Go live is expected with all the documentation and approvals from SMRITIVAN MEMORIAL PROJECT, BHUJ. Documentation submission shall include compliance and test certificates of all equipment supplied, as built drawings, Network Architecture , Individual location network and equipment termination diagram, centralized network and equipment plan, Network channel plan, fiber termination plan, SAT report, FDS of each equipment and overall functioning of system as per tender requirement, installation procedures, progress reports, 3 hard copies and 2 soft copies in HDD, location installation report format, functional test reports, overall installation and commissioning reports

SECTION J – TECHNICAL SPECIFICATIONS:

Technical Specifications

CAT6 UTP Outdoor cable				
Sr. No.	**Parameter**	**Specifications**	**Compliance (Yes/ No)**	**Remarks if any**
1	Type	Cat6, 4 pair, Double Jacketed, Outdoor UTP cable, 23AWG, LSZH/PE, Antirodent (OEM data sheet should require on their website)		
2	Network support	Supports ultrahigh speed data networks such as Gigabit Ethernet (1000 Base-T and 1000 Base-TX) and beyond.		
3	Certifications	25-year systems warranty; Warranty to cover Bandwidth of the specified and installed cabling system, and the installation costs. Site certificate must be issued by OEM (If customer has requested)		
4	Performance characteristics to be provided along with bid	Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR for 4-connector channel		
5	Manufacturer	All passive cabling must be from same OEM		
6	Conductors	23 AWG solid bare copper		
7	Insulation	Polyethylene		
8	Outer Jacket Characteristics	flame-retardant, anti-rodent		
9	Filler	PE		
10	Frequency tested up to	250 MHz minimum		
11	Outer dia	5.5 - 6.1 mm		
12	Packing	Box of 305 meters		
13	shipping weight	305m reel in a box 24kg		
14	Impedance	100 Ohms + / - 15 ohms		
15	Performance characteristics to be provided along with bid	Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR		
16	Delay Skew:	45ns Max		
17	Impedance:	100 ± 15 Ohms		
18	Current Rating:	1.5 A Max		
19	Conductor DC Resistance:	66.5Ω/km		
20	Voltage:	150VAC		
21	NVP	67%		
22	Propagation delay:	535ns/100m @250MHz		
23	Mutual Capacitance:	5.6nF/100m Nominal		
24	Insulation Resistance:	500 MΩ Minimum		
25	Dielectric Strength:	1000 V RMS		
26	Contact Resistance:	10 mΩ Max		
27	Protection Class	IP 20		

28	Standards	ISO/IEC 11801 ed. 2.2; IEC 61156-5 2nd Ed.; EN 50173-1; EN 50288-6-1; EIA/TIA 568-C.2; Fire rating: IEC 60332-1; IEC 60754-2; IEC 61034;		
29	Operation temperature	(-20 °C to +60 °C)		

Cat6 UTP LSZH Patch Cord 0.5 mtr				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Features	Cat 6 U/UTP patch cord for data networks for		
		10/100BASE-T and 1000BASE-T amplifications		
		The patch cable should be made from high quality four pair 24 AWG stranded copper wire. It should be available in a range preterminated with RJ45 plugs and feature anti-snag slim strain relief slip on boots. 4 pair 24 AWG stranded copper wire Pre-terminated with WE8W plugs		
		Slim clear anti-snag slip on boots Suitable for EIA 568A or 568B wiring with LS0H sheath and RoHS Compliant		
2	Mechanical Characteristics - Cable	Conductor size: 24 AWG stranded copper wire		
		Length: 0.5 mtr		
		Nom. O.D.: 5.9mm		
		Sheath: LS0H		
		Bend radius: 4X O.D.		
		Operating temperature range: -20°C to 60°C		
3	Mechanical Characteristics - Plug	MIN operating life: 750 insertion cycles		
		RJ45 plug and boot material: Clear polycarbonate		
		Contact material: 0.35mm thick copper alloy		
		Contact plating: Selective gold		
		RJ45 plug dimensions compliant with:		
		ISO/IEC 60603-7-4 and		
		FCC 47 Part 68		
4	Electrical Characteristics	Max voltage: 150 VAC (max)		
		Max current: 1.5A @ 25°C		
5	Fire Propagation Tests	LS0H Sheath: CSA FT1, IEC 60332-1, IEC 61034		
6	Standards	ISO/IEC 11801 IEC 60603-7-4 / IEC 60603- 7-5 IEC 61935-2 TIA/EIA-568-B.1-1 UL 94-V0 IEC 60603-7		

Cat6 UTP LSZH Patch Cord 1 mtr				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**

1	Features	Cat 6 U/UTP patch cord for data networks for		
		10/100BASE-T and 1000BASE-T applicications		
		The patch cable should be made from high quality four pair 24 AWG stranded copper wire. It should be available in a range preterminated with RJ45 plugs and feature anti-snag slim strain relief slip on boots. 4 pair 24 AWG stranded copper wire Pre-terminated with WE8W plugs		
		Slim clear anti-snag slip on boots Suitable for EIA 568A or 568B wiring with LS0H sheath and RoHS Compliant		
2	Mechanical Characteristics - Cable	Conductor size: 24 AWG stranded copper wire		
		Length: 1 mtr		
		Nom. O.D.: 5.9mm		
		Sheath: LS0H		
		Bend radius: 4X O.D.		
		Operating temperature range: -20°C to 60°C		
3	Mechanical Characteristics - Plug	MIN operating life: 750 insertion cycles		
		RJ45 plug and boot material: Clear polycarbonate		
		Contact material: 0.35mm thick copper alloy		
		Contact plating: Selective gold		
		RJ45 plug dimensions compliant with:		
		ISO/IEC 60603-7-4 and		
		FCC 47 Part 68		
4	Electrical Characteristics	Max voltage: 150 VAC (max)		
		Max current: 1.5A @ 25°C		
5	Fire Propagation Tests	LS0H Sheath: CSA FT1, IEC 60332-1, IEC 61034		
6	Standards	ISO/IEC 11801 IEC 60603-7-4 / IEC 60603- 7-5 IEC 61935-2 TIA/EIA-568-B.1-1 UL 94-V0 IEC 60603-7		

Cat6 UTP LSZH Patch Cord 3 mtr				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Features	Cat 6 U/UTP patch cord for data networks for		
		10/100BASE-T and 1000BASE-T amplifications		
		The patch cable should be made from high quality four pair 24 AWG stranded copper wire. It should be available in a range preterminated with RJ45 plugs and feature anti-snag slim strain relief slip on boots. 4 pair 24 AWG stranded copper wire Pre-terminated with WE8W plugs		

		Slim clear anti-snag slip on boots Suitable for EIA 568A or 568B wiring with LS0H sheath and RoHS Compliant		
2	Mechanical Characteristics - Cable	Conductor size: 24 AWG stranded copper wire		
		Length: 3 mtr		
		Nom. O.D.: 5.9mm		
		Sheath: LS0H		
		Bend radius: 4X O.D.		
		Operating temperature range: -20°C to 60°C		
3	Mechanical Characteristics - Plug	MIN operating life: 750 insertion cycles		
		RJ45 plug and boot material: Clear polycarbonate		
		Contact material: 0.35mm thick copper alloy		
		Contact plating: Selective gold		
		RJ45 plug dimensions compliant with:		
		ISO/IEC 60603-7-4 and		
		FCC 47 Part 68		
4	Electrical Characteristics	Max voltage: 150 VAC (max)		
		Max current: 1.5A @ 25°C		
5	Fire Propagation Tests	LS0H Sheath: CSA FT1, IEC 60332-1, IEC 61034		
6	Standards	ISO/IEC 11801 IEC 60603-7-4 / IEC 60603- 7-5 IEC 61935-2 TIA/EIA-568-B.1-1 UL 94-V0 IEC 60603-7		

CAT6 UTP Information Outlet				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Features	Category 6, EIA/TIA 568A / EIA/TIA 568B		
		All information outlets for 100 W, 22-24 AWG copper cable shall:		
		Use insulation displacement connectors (IDC)		
		Allow for a minimum of 200 re-terminations and >1000 mating cycles without signal degradation below standards compliance limits.		
		Be constructed of high impact, flame-retardant thermoplastic with color and icon options for better visual identification.		
		Jack should be With integral cable strain relief, including dust cover.		
		PCB-free and tool-free Easy-Lock connection of installation cables		
		IDC posts should be pointed		
		Jack should be able to install without using any tool (Tool-less)		

		contact resistance 1000 Veff. Halogen-free materials and UL94V-0 rated or equivalent		
2	Mechanical Characteristics	Operating Life: Minimum 750 insertion cycles		
		Contact Material: Copper Alloy		
		Contact Plating: 50µ" Gold/100µ" Nickel		
		Contact Force: 100g minimum		
		Plug Retention Force: 15 lb.		
3	IDC Connector	Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent		
		Operating Life: Minimum 200 reterminations		
		Contact Material: Copper Alloy		
		IDC Contact Plating: Tin/Lead Plate		
		Contact Force: 100g minimum		
		Wire Accommodation: 22-24 AWG solid		
4	Electrical Characteristics	Interface Resistance: 20 milliohms		
		Initial Contact Resistance: 2.5 milliohms		
		Insulation Resistance: >100 Megaohms		
5	Dimensions (mm)	18.2 H x 22.7 Wx 41.3 D (mm)		
6	Weight	0.008500KG		
7	Standards	IEC 60603-7: Electrical Characteristics of the Telecommunication Outlets ISO/IEC 11801, Second Edition: September 2002 EN 50173-1: May 2007		
8	Compatible with connectors	RJ11, RJ12, RJ45		

faceplate for CAT 6 UTP with back box				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Face plate	Single Gang square plate, 86mmx86mm		
		Write on labels in transparent plastic window – supplied with plate		
		Label strips – to be supplied with plate		
		Pure White Color		
		Should be able to support variety of jacks – UTP, STP, Fiber, Coax etc.		
2	Back box	Standard PVC back box suitable to face plate		

CAT 6 UTP 24 port patch panel loaded				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Features	Be made of powder coated steel, in 24 port configurations.		

		Allow for a minimum of 200 re-terminations without signal degradation below standards compliance limit.		
		Have port identification numbers on the front of the panel. Panel should have PVC cover with port number.		
		Should be upgradeable as Intelligent Patch Panel without changing the existing Patch Panel hardware and by simple retro fitting of intelligent sensors as and when required.		
		Each port / jack on the panel should be individually removable on field from the panel. All jacks must be in Zig-Zag form to have better manageability.		
		Should have integrated rear cable management shelf.		
		Should be complying with TIA 568B.2-1.		
2	Patch Panel Characteristics	CRS (cold rolled steel)		
	Material	Thickness: . 060" (1.52mm)		
	Coating	Coating: Powder coated and front side PVC cover with port numbering		
3	Mechanical Characteristics of Jack Connector	Plastic Housing: UL94V-0		
		rated or equivalent		
		Operating Life: Minimum 750 insertion cycles		
		Contact Material: Copper Alloy		
		Contact Plating: 50µ" Gold/100µ" Nickel		
		Contact Force: 100g minimum		
		Plug Retention Force: 15 lb.		
4	IDC Connector	Plastic Housing: UL94V-0 rated or		
		Equivalent		
		Operating Life: Minimum 200 reterminations		
		Contact Material: Copper Alloy		
		IDC Contact Plating: Tin/Lead Plate		
		Contact Force: 100g minimum		
		Wire Accommodation: 22-24 AWG solid		
5	Dimensions	24 Port with trays 43.2 mm H x 483mm W x 98mm		
6	Weight	1.2kg		
7	Standards	TIA/EIA-568-C.2 Component Compliant,		
		IEC-603-7 Compliant,		
		ISO 11801 Class E Compliant, Category 6 Component Compliance & UL approved make		

PVC Pipe / Conduit

Sr. No.	Parameter	Required Specifications	Compliance (Yes/ No)	Remark
1	Type & Size	Heavy duty PVC Conduit / pipe with 25mm size		
2	Bending Test	After the test on samples at room temperature, the samples shall show no cracks visible to normal vision without magnification. Bending Test is applicable for 16mm, 20mm and 25 mm		
3	Compression Test	25% of compression allowed under load of 1250N for Heavy and Medium Conduits and 10% allowed after releasing the load.		
4	Impact Test	After the test on Samples at specified temp, there shall be on sign of disintegration and crack visible to naked eye in at least nine out of twelve Samples		
5	Collapse Test	After the test on the conditioned samples, it shall be possible to pass gauge of specified diameter for conduits of 16 mm to 25 mm diameter in Light, Medium and Heavy Mechanical stresses		
6	Resistance to Heat	After the test, Ball diameter of impression on the sample shall not exceed 2mm		
7	Resistance to burning	Flame shall die out in less than 30 seconds after removal of burner		
8	Electrical Characteristics	(a) Di-electric strength No breakdown of conditioned sample shall occur at the voltage of 2000v &50Hz frequency for 15 minutes. (b) Insulation Resistance The insulation Resistance on conditioned Samples shall not be less than 100MΩ.		
9	Oxygen Index Test	The minimum concentration of oxygen flowing upward in test column under equilibrium conditions should be minimum 21%, expressed as volume percent.		
10	Temperature Index Test	The specific requirement under this test is minimum 250 ˚C.		
11	Smoke Density Test Clear Beam Reading	Clear Beam Reading should range from a minimum of 0% to a maximum of 100%		
12	Flammability Test	(i) Average Extent of Burning: The specific requirement on the average extent of Burning is < 25 mm. (ii)Average Time of Burning: The specific requirement on the average time of Burning is < 10 Sec		
13	Halogen Acid Generation Test (mg/gm)	The maximum Halogen Acid Generation allowed under this test is 200 mg/gm		

3 Core - 1.5 Sq MM Copper FRLS Power Cable

Sr. No.	Parameter	Required Specifications	Compliance (Yes/ No)	Remark
1	Cable Type	Power Cable		
2	Configuration	3 Core - 1.5 Sq MM Copper FRLS Power Cable		
3	Dimensions	350 × 100 × 100 mm		
4	Core	3		
5	Color	Black or as per OEM specific		
6	Conductor	Copper		
7	Weight	0.093 kg		
8	Wire/Cable Type	Multi-core Flexible FRLS Cable		
9	Standard	ISO 9001:2015 ISO 14001: 2015 ISO 45001: 2018 BASEC LICENSE		

6 core Armoured Outdoor Fiber cable with HDPE				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Cable Type	The outdoor cable for applications in harsh conditions. It should contains a central gel-filled loose tube of a diameter of 2.5±0.1 mm. The outer sheath is made of 0.150 mm ECCS tape armor plus a 1.8 mm HDPE sheath. Sheath: HDPE, Black		
2	Fiber Type	Single Mode, 9/125 micron primary coated buffers, OS2 (IEC 60793-2-50, B1.3 and ITU T G652.d). Shall be manufactured using Vapor Axial Deposition technology.		
	Contruction type			
3	Type of Fiber	Loose Tube		
4	Tube:	Polybutylene, Terephthalate (PBT)		
5	Tube colour:	White		
6	Tube diameter	3.0/2.0 mm nominal OD/ID		
7	Fiber Class	G.652D (OS2)		
8	Fibre colour sequence	Blue, Orange, Green, Brown, Slate (Grey), White, Red, Black, Yellow, Violet, Pink, Aqua		
9	Cable jacket characteristics	Water tight		
10	Armouring:	Corrugated Steel Tape Armour (ECCS Tape) Thickness > 0.125mm		
11	Peripheral Strength Member	Two Steel wires		
12	Outer Sheath	HDPE		
13	Sheath thickness	2.0 mm nominal		
14	Sheath colour	Black		
	Standards			

15	Standards	ISO/IEC 11801:2002 ITU-T G.652.D IEC 60793-2-50:2004, B 1.3 IEC 60794-1-2 E1; IEC 60794-1-2 E11; IEC 60794-1-2 E3; IEC 60794-1-2 F1;		
	Mechanical characteristics			
16	Dimensions and Mass Overall Cable (Nominal):	8.3 ± 0.5 mm		
17	Mass (Nominal)	75 ± 10 kg/km		
18	Cable length	2 km ± 10%		
19	Max. Bending Radius (during installation)	20 X Overall diameter		
20	Max. Bending Radius (during full load):	10 X Overall diameter		
21	Max. Tensile Strength-Short Term	800N		
22	Max. Crush Resistance-Short Term:	2000N/10 cm		
23	Operating Temperature range	(-20° C to +70° C)		
	Optical characteristics			
24	Core Diameter @ 1310nm	9 + 0.6 µm		
25	Cladding Diameter	125 + 1.0 µm		
26	Cladding Non circularity	< 1.0 %		
27	Core Non circularity	< 6.0 %		
28	Core-Cladding Concentricity error	< 0.6 µm		
29	Primary Coating Diameter-uncoloured	245 + 10 µm		
30	Primary Coating Diameter-coloured	250 + 15 µm		
31	Primary Coating Non Circularity	< 6.0 %		
32	Primary Coating Cladding Concentricity error	< 12.5 µm		
33	Proof Stress Level	> 0.7 (~ 1%) GPa		
34	Strip Force (Peak):	1.0 < F peak.strip< 8.9		
35	Zero dispersion wavelength	1310-8/+12 nm		
36	Zero dispersion slope	> 0.091 ps/(nm2.km)		
37	Fibre curl:	> 4 m-radius of curvatuer		
38	Cut-off wavelength	< 1260 nm		
39	Mode field diameter at 1310	9.3 ± 0.5 µm		
40	Mode field diameter at 1550	10.4 ± 0.8 µm		

41	Macrobending loss @ 1550 nm, 100 turns on a 60mm mandrel Max (chromatic)dispersion:	<0.5 db		
42	@1270-1340nm	<5.3ps/nm-km		
43	@1285-1330nm	<3.5ps/nm-km		
44	Polarisation mode dispersion (PMD) coefficient, cabled	< 0.5 ps/sq km)		
45	PMD Link Design Value	< 0.2 ps/sq km) RoHS Complaint		
	Electrical/Optical Characteristics			
46	Attenuation	Characteristics - Optical Performance Max. Attenuation (Cable with fibres) At 1310 nm: 0.35 dB/km At 1550 nm: 0.22 dB/km Max. Average Attenuation; At 1310 nm: 0.33 dB/km At 1550 nm: 0.21 dB/km		

8 Port Loaded fiber patch panel loaded with pigtails - LC Single mode				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Features	Configurable Fibre drawer should be 1U rack mount unit for storing and terminating incoming fibre cable. It should be able to configure adaptor of fibre system to suit all fibre applications. LIU should have sliding mechanism to have better management of fiber		
2		It should be with management rings within system to accommodate excess fibre cordage behind the trough adapters and maintain fibre bend radius		
3		It should be able to accommodates Single mode fibres		
4		**Properties:** Adhesive labelling for port identification, Sliding drawer for ease of reconfiguring fibres, Rugged steel construction finisdhed in attractive, Graphite finish to complement all rack mount equipment,		
5		Material: CRCA 1.2mm, powder coated RAL 7035		
6		Capacity: Up to 24 Port (Using duplex adaptors 24 nos.)		
7		Fibre Termination - Direct Termination		
	LC adapter			
8	Features	Adapters should be with a shutter providing a barrier against harmful light emissions and with either precise zirconia ceramic or rugged phosphor bronze alignment sleeves		
9		It should be with Small footprint, polymer alignment sleeves, Unique shuttered feature		

		protects from harmful light emissions. Available upon application		
10		It should be available in Single mode complied		
11	Physical	Options: Fusion Splice , Mechanical Splice		
12		Fiber drawer, adaptor, splice tray and fiber cleaning kit should be include in fiber LIU. These all should come in single partcode and factory assemble condition		
13		Weight: Maximum 4 Kg (without pigtail)		
14	Temperature range [°C]	Transport Storage Operation: Transport : -40 up to +85 Storage: -40 up to +85 Operation: -25 up to +55		
15	Standard	IEC 60068-2-2 / IEC 60068-2-1, IEC 61300-2-22 / IEC 61300-2-19		
16	**LC Single-mode Pigtail**			
17	Features	**Features and Benefits:** Standard or custom assemblies Precision ferrule endface geometry Controlled fibre protrusion Factory polished, tested and serialized.		
18	Cable ø [mm]	2.0 (± 0.1)		
19	Material	LSZH		
20	Secondary coating	900 (± 5%) µm		
21	Nominal weight [kg/km]	2.2		
22	Temperature range [°C]	Storage : -25 up to +60 Installation : -10 up to + 50 Operation: -20 up to + 60		
23	Maximum tensile strength [mm]	Installation: 200 Operation: 100		
24	Insertion loss IL [dB]	97% Typical value		
25	Return loss RL [dB]	97% Typical value		
26	Mating durability [times]	500x (minimum)		
27	Retention [N / s] Cable of pigtail	100 / 120		
28	Vibration	10-55Hz, 1 octave / min.		
29	Standards	IEC 61300-2-22, IEC 60794-1-2 E1, IEC 60794-1-2 E11, IEC 60794-1-2 E13, ISO/IEC 11801, ITU-TG.657.B3, IEC 61300-2-2, IEC 61300-2-4, IEC 61300-2-1, IEC 61300-2-44, IEC 61300-2-42, IEC 61300-2-12		

12 Port Loaded fiber patch panel loaded with pigtails - LC Single mode				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Features	Configurable Fibre drawer should be 1U rack mount unit for storing and terminating incoming fibre cable. It should be able to configure adaptor		

		of fibre system to suit all fibre applications. LIU should have sliding mechanism to have better management of fiber		
2		It should be with management rings within system to accommodate excess fibre cordage behind the trough adapters and maintain fibre bend radius		
3		It should be able to accommodates Single mode fibres		
4		**Properties:** Adhesive labelling for port identification, Sliding drawer for ease of reconfiguring fibres, Rugged steel construction finished in attractive, Graphite finish to complement all rack mount equipment,		
5		Material: CRCA 1.2mm, powder coated RAL 7035		
6		Capacity: Up to 24 Port (Using duplex adaptors 24 nos.)		
7		Fibre Termination - Direct Termination		
	LC adapter			
8	Features	Adapters should be with a shutter providing a barrier against harmful light emissions and with either precise zirconia ceramic or rugged phosphor bronze alignment sleeves		
9		It should be with Small footprint, polymer alignment sleeves, Unique shuttered feature protects from harmful light emissions. Available upon application		
10		It should be available in Single mode complied		
11	Physical	Options: Fusion Splice , Mechanical Splice		
12		Fiber drawer, adaptor, splice tray and fiber cleaning kit should be include in fiber LIU. These all should come in single partcode and factory assemble condition		
13		Weight: Maximum 4 Kg (without pigtail)		
14	Temperature range [°C]	Transport Storage Operation: Transport : -40 up to +85 Storage: -40 up to +85 Operation: -25 up to +55		
15	Standard	IEC 60068-2-2 / IEC 60068-2-1, IEC 61300-2-22 / IEC 61300-2-19		
	LC Single mode Pigtail			
16	Features	**Features and Benefits:** Standard or custom assemblies Precision ferrule end face geometry Controlled fibre protrusion Factory polished, tested and serialized.		
17	Cable ø [mm]	2.0 (± 0.1)		
18	Material	LSZH		
19	Secondary coating	900 (± 5%) µm		
20	Nominal weight [kg/km]	2.2		

21	Temperature range [°C]	Storage : -25 up to +60 Installation : -10 up to + 50 Operation: -20 up to + 60		
22	Maximum tensile strength [mm]	Installation: 200 Operation: 100		
23	Insertion loss IL [dB]	97% Typical value		
24	Return loss RL [dB]	97% Typical value		
25	Mating durability [times]	500x (minimum)		
26	Retention [N / s] Cable of pigtail	100 / 120		
27	Vibration	10-55Hz, 1 octave / min.		
28	Standards	IEC 61300-2-22, IEC 60794-1-2 E1, IEC 60794-1-2 E11, IEC 60794-1-2 E13, ISO/IEC 11801, ITU-TG.657.B3, IEC 61300-2-2, IEC 61300-2-4, IEC 61300-2-1, IEC 61300-2-44, IEC 61300-2-42, IEC 61300-2-12		

LC-LC duplex fiber optic patch cords 3 Meter - Single mode				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	Optical Fibre Patch Cords should be with LSZH jacket as standard. Patch cords should be offer factory –controlled performance in a variety of connector, ISO performance standards and lengths. It has taken specific attention to the end-face geometry and fibre core alignment to ensure reliability and optimised performance. It should be OS1/OS2 complied		
2	Features and Benefits:	100% Factory Tested – Guaranteed performance LS0H Jacket Standard – Reduces toxic/corrosive gasses emitted during combustion. Plenun and PVC also available Multiple Formats available - Available in Duplex, Single Mode and a variety of connector options		
3	Mechanical Characteristics	Cordage O.D.: 2.0mm +/- 0.1mm x 4.1mm +/- 0.2mm Buffer Diameter: 900µ Primary Coating: 245µ Strength Member: Aramid Yarn Jacket Material: LS0H IEC 61034-1 & 2, IEC-60332-1, IEC-60754-1 & 2 Minimum Bend Radius: Install: 3.0cm. Long Term Bend Radius: 2.0cm Operating Temperature: -40°C to +85°C		
4	Standards	IEC 61300-2-22 IEC 60794-1-2 E1 IEC 60794-1-2 E11 IEC 60794-1-2 E13 ISO/IEC 11801 A1a.3 IEC 60793-2-10		

		IEC 61300-2-2 IEC 61300-2-44 IEC 61300-2-42 IEC 61300-2-1 IEC 61300-2-12		

Fiber splice closure outdoor				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	Fiber closure with gel sealing technology for reliable and easy installation with 2x 12 tray fixing positions (24TPU) for max. 288 fibers. Whether fiber optic cable with a diameter of 2 to 28 mm or micro ducts with a diameter of 5 to 14 mm. Various cable entry kits enable the dome closures to be adjusted to individual requirements		
2	Construction	Closure complete prepared for tray assembling Closure dome with valve Sealing ring Clamp Loose tube tray kit for loop storage Splice tray cover kit incl. accessories Desiccant 2 x 20g (silica gel bags)		
3	Features	Cold sealing technology For cable and/or micro duct installations No thread through of cables No heat gun nor open flame required Up to 1152 splices No thread through of cables Protection class IP68 (5m)		
4	Protection class IP	IP 68		
5	Distributor housing type	splice closure		
6	Lockable	Yes		
7	Closure with valve	Yes		
8	Color	Black		
9	Material	PP (polypropylene)		
10	Standard	ISO 9001 ISO 14001 UL		

OFC Marker				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	OFC marker should be as per standard installation practice. The lettering Option, Diameter, Support type (Angle/ Flat), Support height and paint can be customized as per of the requirement		

2	Material	Mild steel or Stainless steel		
3	Support height	Up to 1 feet		
4	Paint	Aluminium paint / Yellow / Red / Red oxide		
5	Diameter	Minimum 100 mm		
6	Letter	Customised as per site requirement		

Double walled corrugated pipes (DWC)				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Type	Double Wall Corrugated HDPE Pipes		
2	General	DWC pipe quality array of HDPE Double Wall Corrugated Pipes that should chemically inert & environmentally safe. This corrugated pipe can be use as underground cable protection and management for signal and telecom, power & optical fiber cable.		
3	Features	•Smooth inner wall with minimum Friction •Maximum load bearing strength		
4	advantages	•Maximum load bearing strength due to unique Corrugated Design •Very good resistance to Corrosion •Good Life Span of around 50 Years •Good abrasion resistance •Weathering is less •Raw material saving due to it's design •Chemically inert & environmentally safe •Good impact strength •Smooth inner wall, hence minimum Frictio •Moderate flexibility takes care of Soil Settlement if any •Easy jointing using couplers provided with Pipes •Available with Anti Rodent & Non Flame Propagating properties •Extra smooth inner layer to facilitate blowing optical fiber cable •Unique Feature on Request •Permanently Lubricated Silicore Inner layer		
5	Standard	•BSEN 50086 •IS 14930 Part - II •IEC - 61386 part - 2 - 4 •BSNL - GR / DWC-34 / 01		

Outdoor enclosure (Junction box) with pole clamp				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**

1	Size	Suitable size as per site requirements to house the field equipment		
2	Cabinet Material & Material Thickness	enclosure with 600W X 500D front CRCA sheet steel door with 2 nos of cam locks with key, one mounting plate, cable entry. Cabinet should be have 19" mounting angles to mount IT/ rack mounted equipments. Cabinet should have fan and filter on side to have better air ventilation. Accessories like mounting clamp (Wall / Pole clamp), PG Glands / Gland plats, mounting hardware, 1 no. cantilever tray should be supply with Junction box. Color: 7035 Light Grey. Material thickness should be Min 1.6mm		
3	Painting of Junction box	Painting/Coating: Primary Nano ceramic coating, Electrophoretic Dip Coating with 20-30 Microns and then Power Coating with 80-120 Micron,		
4	Number of Locks	Two		
5	Protection	Min. IP 55 or better suitable for operations of field equipment's		
6	Mounting	On Camera Pole / Ground mounted on concrete base		
7	Form Factor	Rack with 19" L-angle 2 pair		
8	Approval	–UL		
		– CSA		
		– TÜV		
		– DNV GL		
		– Russian Maritime Register of		
		Shipping		
		– Lloyds Register of Shipping		
		ISO 9001, EN ISO 14001 and OHSAS 18001		
		– Bureau Veritas		
9	Other Features	Rain Canopy, Cable entry with glands and Fans/filter, PDU, cable manager, shelf accessories required for operation of equipment's within junction box.		
10	Installation reference	OEM should provide at least 1 reference where similar product has been supplied and installed. Minimum quantity of supply should be 100 nos. in a single project. Reference purchase order copies need to be attached.		

Network rack 15U 600W X 500D				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Size	enclosure of dimensions 600WX15UX500D with front Glass door with cam locks with key, 50 dia rubber grommets for cable entry at bottom with		

		integrated side walls. Cabinet should be have 19" mounting angles to mount IT/ rack mounted equipments. Cabinet having ventilation apart from 2 nos. fan provision on top cover for better air ventilation.		
2	Material	CRCA Sheet steel		
3	Painting/ Coating	Painting/Coating: Primary Nano ceramic coating, Electrophoretic Dip Coating with 20-30 Microns and then Power Coating with 80-120 Micron,		
4	Color	RAL 7035 (Light Grey) texture finish		
5	Accessories	Horizontal Cable manager, 6 socket 5A PDU, 1 no. FAN, and cantilever tray		
6	Standards	ISO 9001, EN ISO 14001, OHSAS 18001, UL, CSA, TUV, VDE, Bureau Veritas approvals required		

Network rack 42U 800W X 1000D				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Type	42U 800W X 1000D racks mounted on the floor		
		• Floor Standing Server Rack - 42U with Heavy Duty CRCA Frame section punched in 25mm DIN pitch pattern. All profile edges are radiused. The corners are stiffened with welded zinc die-cast corner connectors, Front and rear perforated door. Top cover with cable entry and Bottom open. 42 U 19" L type angle Front & Rear on 6 x punched section. Color RAL 9005 or RAL 7035 with an overall weight carrying Capacity of 1000Kgs.		
		• All racks should have mounting hardware 2 Packs, Blanking Panel.		
		• Stationery Shelf (2 sets per Rack)		
		• All racks must have 3 points locking system on front and rear perforated doors. The side panels set for each rack		
		• Racks should have Rear Cable Management channels, Roof and base cable access		
		• The color of the Cabinet shall be RAL 7035 / RAL 9005 and bottom cable entry required		
		• Painting/Coating: Painting/Coating: Primary Nano ceramic coating, Electrophoretic Dip Coating with 20-30 Microns and then Power Coating with 80-120 Micron, ISO 9001, EN ISO 14001 and OHSAS 18001 approvals required for manufacturing facility+C28		
		• Rack OEM should be certified with UL, CSA, TÜV, DNV GL, Russian Maritime Register of Shipping, Lloyds Register of Shipping, Bureau Veritas		
2	Wire managers	Two vertical and four horizontal		

3	Power Distribution Units	• 2 per rack		
		• Power Distribution Unit - Vertically Mounted with 5/15A 10 nos. Power sockets		
4	Doors	• The racks must have steel (solid / grill / mesh) front / rear doors and side panels. Racks should NOT have glass doors / panels.		
		• Front and Back doors should be perforated with at least 89% or higher perforations. Perforation should be in hexagonal design to have better air ventilation		
		• Both the front and rear doors should be designed with quick release hinges allowing for quick and easy detachment without the use of tools.		
5	Fans and Fan Tray	• Fan 90CFM 230V AC, 4" dia (4 Nos. per Rack)		
		• Fan Housing Unit 4 Fan Position (Top Mounted) (1 no. per Rack) - Monitored - Thermostat based - The Fans should switch on based on the Temperature within the rack. The temperature setting should be factory settable. This unit should also include - humidity & temperature sensor		
6	Metal	CRCA sheet steel welded profile		
7	Side Panel	Side panels with Screw fit (set of 2 per Rack)		

1 KVA Online UPS				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Capacity (in kVA / kW)	1kVA/0.9 kW 1-Phase Input / 1-Phase Output		
2	Technology and Capability	a) True Online configuration with double conversion UPS & Zero transfer time. b) DSP based control with advanced technology. c)Wide Input voltage range from (80 ~ 280VAC) d) Auto restart capability with the Independent battery bank operation of the UPS. e) UPS should be designed at Rated PF of 0.9 i.e. 1kVA/0.9kW UPS rating. f) Generator compatibility with cold start and AC start features.		
3	Model Name & Number			
3.1	1kVA /0.9kW	Make / Model / Part No to be specified by the vendor		
4	Input			
4.1	Input facility -Phases / Wires	Single-Phase / 2-Wire & Gnd (1Phase & Neutral + Ground)		
4.2	Input Voltage Range	220/230/240VAC Range (Full Load) 175~280VAC		

		Range (Derating to 50%-100% Load) 80~175VAC		
4.3	Nominal Input Frequency	50/60Hz ± 10Hz		
4.4	Input Frequency Range	40 to 70 Hz		
4.5	Input Power Factor	> 0.99(full load)		
4.6	Generator Compatibility	Compatibility to genset supply required		
4.7	Input Protection	Should be provided at the input of the UPS suitable for the full rated capacity of the UPS.		
5	Output			
5.1	Nominal Output voltage	220/230/240 VAC		
5.2	Output Voltage Regulation	± 2% for linear load & ± 3% for non-linear load.		
5.3	Nominal Output Frequency	50 or 60Hz		
5.4	Output Frequency Regulation	± 0.1Hz		
5.5	Output Frequency Slew Rate	< 1Hz/sec		
5.6	Output Wave Form	Pure sine wave		
5.7	Output Voltage Distortion (THDu)	< 3% for linear load & < 5% for non-linear load.		
5.8	Crest Factor	3:1 On Full Load (Minimum)		
5.9	Output Short circuit Protection	Electronic Protection		
6	Transfer Time			
6.1	Transfer Time (Mode of operation)	Zero ms from Mains mode to Battery Mode Zero ms from Battery Mode to Mains mode		
6.2	Transfer Time (Inverter to Bypass / Bypass to Inverter)	2~4ms		
6.3	Automatic Bypass switch	UPS should be capable of automatic change over to bypass.		
7	Efficiency (At Nominal Voltage & Resistive Load up to kW rating of UPS)			
7.1	Overall Efficiency (AC to AC) - Online (Double Conversion)	Up to 93% (at 100% load)		
8	Overload			
8.1	Inverter Overload capacity	<105%for Continuous,<105~<125for 1Min,<125~<150for 30Sec		
9	Display Panel (In-build LC Display & LED)			
9.1	Measurements (On LCD)	Input: Voltage & Frequency, Bypass: Voltage & Frequency, Output: Voltage, frequency, Kilowatt & kVA, Battery: Remaining time & Battery Level Indicator, Load Percentage & Load Level Indicator, Ambient temperature.		

9.2	Fault Indication (On LCD)	Charger Fault, Temperature out of Range,+/-DC bus High/Low, Inverter Fault, DC-DC fault, Abnormal output/Inverter voltage, output short, RPO shutdown & Battery low shutdown		
9.3	Indications (LED)	Green & Red		
9.4	Setable data	Inverter Voltage, Inverter Frequency, Bypass Range, Buzzer & Overload alarm		
10	Alarms			
10.1	Audible Alarms	Replace Battery, Overload warning & shutdown, High Temp, Low Battery, High Temp warning & shutdown		
11	Battery Backup / Battery Bank & Charger			
11.1	Backup Required	15 min (inbuilt batteries)		
11.2	Battery Bank Voltage	72 VDC		
11.4	Batteries Type	Sealed Maintenance Free (SMF) - 12V Cells, VRLA,GEL		
11.5	Battery Makes	Amara Raja / Exide / UPS OEM		
11.6	Number of Battery Banks	Inbuilt in UPS		
11.7	Minimum Charger Rating (Including internal / external)	The charger should be able to deliver charging current equivalent to 10% of Battery Ah rating offered.(In case of external chargers, suitable monitoring of the chargers should be provided in the UPS. Also all external chargers taking AC input must have PFC - Power factor correction)		
11.8	Charger type / Charging Method & Charging Voltages	Constant Voltage Constant Current Solid state SMPS charger Float Charge 81.9V Boost Charge 84.0V		
11.9	External charger board	Additionally install the 4A charger board to increase the charge current to reach at maximum 8A.		
11.10	Battery recharge time (After complete discharge) to 90% capacity	3hour to 90%		
11.11	Battery Housing (Vendor to provide the GA drawings of the offered Battery Rack)	Should be compact and space saving MS steel open racks complete with interconnectors		
11.12	Battery End Cell Voltage	1.75 V/cell		
12	Interfaces			
12.1	USB Port should be available (Mandatory)	There should be provision for USB port also in the UPS.		
12.2	Interface to Mini TVSS card	UPS should have option to have this card enable the UPS with the surge protection		

12.3	Interface to NMS (Network Management System) - To be quoted as option - **Must required**	UPS should be with **SNMP Card** for connecting the UPS to LAN thru Ethernet port & monitoring thru NMS should be available		
12.4	Interface to BMS (Building Management System) - To be quoted as option	UPS should be enable to install ModBus Card for connecting to UPS to BMS thru RS485 & monitoring thru BMS		
12.5	Interface to DCS (Distributed Control System) - To be quoted as option	UPS should be enable to install Relay I/O Card or PFC (Potential free contacts) for connecting to UPS to DCS / PLC / SCADA system for communicating UPS operating status		
13	Restart / Testing Capability			
13.1	Cold Start	UPS should start up On AC Supply (Mains) without DC Supply (Batteries) On DC Supply (Batteries) without AC Supply (Mains)		
13.2	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown		
13.3	Self Diagnosis	UPS should be capable to carry out self test of Rectifier / Charger /Battery & Inverter module during start-up		
14	Physical			
14.1	Operating Temperature	0 to 40 deg C		
14.2	Storage Temperature	-15 to 50 deg C		
14.3	Operating Humidity	5% ~ 95%RH (No Condensing)		
14.4	Operating Altitude	0-1000m		
14.5	Type of Cooling	Forced Air		
14.6	Noise Level	< 48 dbA at 1 meter distance		
14.7	Form Factor	Tower mountable		
14.8	Air Filters	UPS should have facility to have internal anticorrosion air filters for dust filtration		
14.9	Dimension (w x d x h) in mm	To be furnished by the bidder		
14.10	Weight - in kg	To be furnished by the bidder		
14.11	Reliability	MTBF greater than 100000 hours		
14.12	Packaging Material / Vibration Withstand & Drop Test	Recyclable (No CFC) & 1. Vibration testing as per ISTA -1G Non-operational with Packing		

14.13	Standard Package of UPS to include the following minimum accessories	1. UPS 2. CD - Monitoring Software 3. RS232 Cable 4. Tower Stand - Foe use as Tower 5. Brackets for mounting in 19" IT Server / Networking Rack 6. UPS to Battery bank connecting Cable 7. User Manual		
14.14	Grounding	UPS should have grounding arrangement.		
15	Certifications			
15.1	Manufacturer	QMS: As per ISO 9001: 2008 EMS: As per ISO 14001: 2004 OSHAS: As per ISO 18001: 2007		
15.2	Product Safety Certifications (Mandatory)	BIS Certification IEC 62040-1:2008 ESD:IEC61000-4-2: level4 RS : IEC61000-4-3: level3 EFT: IEC61000-4-4:level4 SURGE: IEC61000-4-5:level4 CS: IEC61000-4-6: level3 IEC61000-4-8 IEC 61000-2-2 EN 62040-2:2006 EN 61000-3-2:2009 EN 61000-3-3:2013		
15.3	ROHS compliance	UPS should be ROHS compliance		

10 KVA Online UPS (N+N redundancy)				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Capacity (in kVA / kW)	10kVA/10kW 1-Phase Input / 1-Phase Output (Set of 2 UPS with 2 battery bank to have N+N redundancy with parallel kit)		
2	**Technology and Capability**			
2.1	Online Double Conversion	True Online configuration with double conversion UPS & Zero transfer time.		
2.2	DSP Based System (Mandatory)	DSP based control with advanced technology.		
2.3	Wide Input voltage Range	Wide Input voltage range from (100 ~ 280VAC)		
2.4	Auto Restart & Battery Independent	Auto restart capability with the Independent battery bank operation of the UPS.		
2.5	Designed Power Factor 1 (Mandatory)	UPS should be designed at Rated PF of 1 i.e. 10kVA/10kW UPS rating.		
2.6	Generator & Cold start compatibility	Generator compatibility with cold start and AC start features.		

2.7	Fully Rated Power (kVA=kW) (Mandatory)	Fully rated power (kVA=kW) for maximum power availability.		
2.8	N+X Up to 4 Systems (Mandatory)	Possibility of enhancing UPS capacity / redundancy by operating UPS in N+X Parallel. Redundant Configuration up to 4 units.		
2.9	PFC & Inverter Based Technology	UPS should have topology for both PFC (power factor correction) & inverter based technology.		
3	Model Name & Number			
3.1	10kVA /10kW	Make / Model / Part No to be specified by the vendor		
4	Input			
4.1	Input facility -Phases / Wires	Single-Phase / 2-Wire & Gnd (1Phase & Neutral + Ground)		
4.2	Nominal Voltage	200/208/220/230/240 VAC		
4.3	Nominal Voltage Range	200/208 (de-rating to 90%) : 100VAC~280 VAC 220/230/240 : 100Vac~280 VAC		
4.4	Nominal Input Frequency	50/60Hz ± 10Hz (Auto Selectable)		
4.5	Input Frequency Range	40 to 70 Hz		
4.6	Input Power Factor	> 0.99(full load)		
4.7	Generator Compatibility	Compatibility to genset supply required		
4.8	Input Protection	Should be provided at the input of the UPS suitable for the full rated capacity of the UPS.		
5	Output			
5.1	Nominal Output voltage	200/208/220/230/240 VAC		
5.2	Output Voltage Regulation	± 1% for linear load		
5.3	Nominal Output Frequency	50/60Hz ±0.05 Hz		
5.4	Output Frequency Regulation	± 0.1Hz		
5.5	Output Frequency Slew Rate	< 1Hz/sec		
5.6	Output Wave Form	Pure sine wave		
5.7	Output Voltage Distortion (THDu)	< 3% for linear load.		
5.8	Crest Factor	3:1 On Full Load (Minimum)		
5.9	Output Short circuit Protection	Electronic Protection		
6	Transfer Time			
6.1	Transfer Time (Mode of operation)	Zero ms from Mains mode to Battery Mode Zero ms from Battery Mode to Mains mode		
6.2	Transfer Time (Inverter to Bypass / Bypass to Inverter)	2~4ms		
6.3	Automatic Bypass switch	UPS should be capable of automatic change.		

7	Efficiency (At Nominal Voltage & Resistive Load up to kW rating of UPS)			
7.1	Overall Efficiency (AC to AC) - Online (Double Conversion)	Up to 95% (on 100% load)		
7.2	ECO Mode Efficiency	98%		
8	Overload			
8.1	Inverter Overload capacity	<105%for Continuous,<105~<125for 2Min,<125~<150for 30Sec		
9	Display Panel (In-build LC Display & LED)			
9.1	Measurements (On LCD)	Input: Voltage & Frequency, Bypass: Voltage & Frequency, Output: Voltage, frequency, Kilowatt & kVA, Battery: Remaining time & Battery Level Indicator, Load Percentage & Load Level Indicator, Ambient temperature.		
9.2	Fault Indication (On LCD)	Abnormal I/P,I/P Fuse blown, Rectifier Abnormal, BUS start abnormal, Battery start abnormal, BUS start abnormal in battery mode, +BUS voltage too high & low, -BUS voltage too high & low, Inverter O/P voltage abnormal, Overload shutdown, Charge voltage too high, Damaged Batteries, Battery missing, Battery voltage to low & Over temperature Protection.		
9.3	Indications (LED)	Green & Red (For output & Fault)		
9.4	Settable data through (LCD)	Inverter Voltage, Inverter Frequency, Frequency converter, ECO Mode, Overload alarm, Buzzer, Charging current, Battery Capacity, Battery String & Parallel ID		
10	Alarms			
10.1	Audible Alarms	Replace Battery, Overload warning & shutdown, High Temp, Low Battery, High Temp warning & shutdown		
11	Battery Backup / Battery Bank & Charger			
11.1	Backup Required	30 min (10080 VAH)		
11.2	Battery Bank Voltage	240 VDC Settable from (192-264 VDC)		
11.3	Batteries Type	Sealed Maintenance Free (SMF) - 12V Cells, VRLA, GEL		
11.4	Battery Makes	Amara Raja / Exide / HBL / Amco / Rocket		
11.5	Number of Battery Banks	Single Bank system.		
11.6	Minimum Charger Rating (Including internal / external)	The charger should be able to deliver charging current equivalent to 10% of Battery Ah rating offered.(In case of external chargers, suitable monitoring of the chargers should be provided in the UPS. Also all external chargers taking AC input must have PFC - Power factor correction)		
11.7	Charger type / Charging Method & Charging Voltages	Float Cum Boost Voltage Solid state SMPS charger		
11.8	External charger board	Additionally install the 4A charger board to increase the charge current to reach at maximum 10A.		

11.9	Battery recharge time (After complete discharge) to 90% capacity	3hour to 90%		
11.10	Battery Housing (Vendor to provide the GA drawings of the offered Battery Rack)	Should be compact and space saving MS steel open racks complete with interconnectors		
11.11	Battery End Cell Voltage	1.75 V/cell		
12	Interfaces			
12.1	Serial Communication RS232 Port (Mandatory)	RS232 Port should be provided as standard in the UPS.		
12.2	USB port available (Mandatory)	However there should be provision for USB port also in the UPS.		
12.3	REPO port available (Mandatory)	However there should be provision for REPO port also in the UPS.		
12.4	Interface to Mini TVSS card	Mini TVSS card is available (OPTIONAL)		
12.5	Interface to NMS (Network Management System) - It must be consider	SNMP (IPV6) Card for connecting the UPS to LAN thru Ethernet port & monitoring thru NMS should be available. • UPS should enable to auto shutdown server hardware if battery back will remain 10-15min. UPS (10 KVA) should have this feature.		
12.6	Interface to BMS (Building Management System) - To be quoted as option	ModBus Card for connecting to UPS to BMS thru RS485 & monitoring thru BMS (OPTIONAL)		
12.7	Interface to DCS (Distributed Control System) - To be quoted as option	Relay I/O Card or PFC (Potential free contacts) for connecting to UPS to DCS / PLC / SCADA system for communicating UPS operating status (OPTIONAL)		
13	Restart / Testing Capability			
13.1	Cold Start	UPS should start up On AC Supply (Mains) without DC Supply (Batteries) On DC Supply (Batteries) without AC Supply (Mains)		
13.2	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown		
13.3	Self Diagnosis	UPS should be capable to carry out self test of Rectifier / Charger /Battery & Inverter module during start-up		
14	Physical			
14.1	Normal Operating Temperature	0 to 40 deg C		
14.2	Storage Temperature	-15 to 50 deg C		
14.3	Operating Humidity	5% ~ 95%RH (No Condensing)		
14.4	Operating Altitude	0-1000m		

14.5	Type of Cooling	Forced Air		
14.6	Noise Level should reduce with Load (Mandatory)	< 50 dbA at 1 meter distance		
14.7	Form Factor	Tower mountable		
14.8	Air Filters	UPS should have internal anticorrosion air filters for dust filtration.(OPTIONAL)		
14.9	Dimension (w x d x h) in mm	23934300 mm^3		
14.10	Weight - in kg	13Kg		
14.11	Reliability	MTBF greater than 100000 hours		
14.12	Packaging Material / Vibration Withstand & Drop Test	Recyclable (No CFC) & 1. Vibration testing as per ISTA -1G Non-operational with Packing		
14.13	Standard Package of UPS to include the following minimum accessories	1. UPS 2. Parallel Cable 3. USB Cable 4. CU Terminal_ Type A 5. CU Terminal_ Type B 6. CU Terminal_ Type C 7. Battery Terminal Box 8. Battery Terminal Box Cover 9. Screw for Battery Terminal Box Cover 10.Cable Tie 11.User Manual		
14.14	Grounding	UPS should have grounding arrangement.		
15	Certifications			
15.1	Manufacturer	QMS: As per ISO 9001: 2008 EMS: As per ISO 14001: 2004 OSHAS: As per ISO 18001: 2007		
15.2	Product Safety Certifications (Mandatory)	IEC 62040-1:2008 ESD:IEC61000-4-2: level4 RS : IEC61000-4-3: level3 EFT: IEC61000-4-4:level4 SURGE: IEC61000-4-5:level4 CS: IEC61000-4-6: level3 IEC61000-4-8 IEC 61000-2-2 EN 62040-2:2006 EN 61000-3-2:2009 EN 61000-3-3:2013		
15.3	ROHS compliance	UPS should be ROHS compliance		

Industrial grade L2 managed POE switch				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	Switch should be designed for Industrial/ rugged outdoor applications. It should have wide operating temperature and it can operate reliably in extremely harsh environments.		

2		It should be design with 4 nos. 10/100/1000M PoE ports & 2 nos 1000M SFP ports which provides abundant and flexible connection. Industrial grade L2 managed POE switch with 4 Gigabit PoE ports & 2 Gigabit SFP ports with 60 Watts POE budget. Switch Should be considered with 2 SFP 1G Module Loaded. Module should be from Switch OEM only		
3		The switch should support surge protection to ensure system stability for greater user flexibility		
4	**Hardware**			
5	Number of Ethernet ports	4 Giga PoE Ports, 2 Giga SFP Ports		
6	Front panel Design	Front panel Cable Installation		
7	IP Level	IP30		
8	Din-Rail Mount	Yes		
9	Wall Mount	Yes		
10	Fanless Design	Fanless		
11	MTBF	219000 Hrs		
12	**Performance**			
13	Number of MAC Addresses	8K		
14	Backplane	12 Gbps		
15	Line Speed	1Gb/s		
16	**Power**			
17	24 VDC	48~57V DC		
18	220 VAC	Yes		
19	Power Budget	60Watts		
20	Power Consumption	10Watt		
21	Dual power input	Yes		
22	**Temperature Range**			
23	Operating Temp.	-40 ~ 75℃		
24	Storage Temp.	-40 ~ 85℃		
25	Humidity	5~95%, Non Condensing		
26	**Redundant Function**			
27	Support fast ring	Yes		
28	Self-healing	<20ms		
29	One key Topology change	Yes (toggle switch)		
30	**Operating Interface**			
31	Web interface	Yes		
32	Internet Explorer	Yes		
33	Telenet interface	Yes		
34	RS232 Console	Yes		

35	RS232 Console Type	Yes(CLI)		
36	CLI	Yes		
37	Windows Utility	Windows Utility		
38	SNMP	SNMP V1/V2C/V3		
39	RMON	RMON 1, 2, 3, 9		
40	**Software Functions**			
41	STP	Yes		
42	RSTP	Yes		
43	MSTP	Yes		
44	IPv6	Yes		
45	LLDP	Yes		
46	SNMP V1/V2C/V3	SNMP V1/V2C/V3		
47	**Upgrade**			
48	RS232 Console upgrade	Yes		
49	Web Browser upgrade	Yes		
50	**Alarm**			
51	E-mail Alarm	Yes		
52	Relay Out (Digital Output)	Yes		
53	Event Trigger	Yes		
54	Event Log	Yes		
55	OEM Warranty	3 years warranty on OEM letter head		

L2 Gigabit Ethernet POE Switch				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General Features	L2 Gigabit POE switch should be design for carrier and MAN networks. It should support comprehensive QoS, enhanced VLAN functions (VLAN, VPN, Voice VLAN, QinQ, N:1 VLAN Translation etc), Ethernet Ring Protection Protocol (G.8032), classified bandwidth control, intelligent security control, OAM (Operations, Administration and Maintenance), manageability functions and Triple-Play services which fulfil the network requirements.		
2		The switch should support a minimum of 24 nos. 10/100/1000 Ethernet Ports		
3		The switch should support a minimum of 4 SFP Uplinks		

4		The switch should support a total of 28 Ports (24 x 10/100/1000Base-T + 4 x 100/1000Base-X (SFP)) PoE Budget: 185w. Switch should be considered with 4 nos (2 x 1G SFP & 2 x 10G SFP+) Module Loaded. Module should be from Switch OEM only		
5		Switch should comply with IEEE 802.3az (Energy-Efficient Ethernet) standard, lower power consumption. It should have port-LED Shut-off function, the user can automatically set the switch port-LED UP or DOWN at a specified time period according to their needs to achieve functional, energy-saving correct results. Switch should be with fan-less design and Smart fan strategies to real-time temperature monitoring system and reduce the noise pollution.		
6	Performance and Scalability	The switch should support Full-duplex Switching bandwidth of 56 Gbps		
7		The switch should support 64-Byte Packet Forwarding Rate of 41.67 Mpps		
8		The switch should support a Dual Core CPU		
9		The switch should support 32 MB of Flash memory		
10		The switch should support 128 MB of DRAM		
11		The switch should support 64 VLANs		
12		The switch should support 4096 VLAN Ids		
13		The switch should support Jumbo frames of 9216 bytes		
14		The switch should support Maximum transmission unit (MTU) of 12K		
15		The switch should support 8000 MAC addresses		
16	Dimension	The Switch should be 1RU		
17		The switch should support Operating temperature from 0°to 50ºC		
18		The switch should support Operating relative humidity 5% to 95% non-condensing		
19	Power Supply	The switch should support an auto-ranging power supply with input voltages between 100 and 240V AC		
20	Standards	The switch should support IEEE 802.1D Spanning Tree Protocol		
21		The switch should support IEEE 802.1p		
22		The switch should support IEEE 802.1Q Trunking		
23		The switch should support IEEE 802.1s Multiple Spanning Tree (MSTP)		
24		The switch should support IEEE 802.1w Rapid Spanning Tree (RSTP)		
25		The switch should support IEEE 802.1x		
26		The switch should support SNMP v1, v2c, and v3		

27	Layer-2 Features	The switch should support Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors		
28		The switch should support IEEE 802.1Q VLAN encapsulation		
29		The switch should support Spanning-tree root guard to prevent other edge switches becoming the root bridge.		
30		The switch should support IGMP filtering		
31		The switch should support Per-port multicast storm control to prevent faulty end stations from degrading overall systems performance		
32		The switch should support Per-port unicast storm control to prevent faulty end stations from degrading overall systems performance		
33		The switch should support IGMP v1, v2 Snooping		
34		The switch should support IGMP v3 Snooping		
35	Network security features	The switch should support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.		
36		The switch should support Port-based ACLs for Layer 2 interfaces to allow application of security policies on individual switch ports.		
37		The switch should support SSHv2 and SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.		
38		The switch should support TACACS+ and RADIUS authentication enable centralized control of the switch and restrict unauthorized users from altering the configuration.		
39		The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.		
40		The switch should support Private VLAN or equivalent		
41	DHCP Features	The switch should support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses DHCP binding database, and to rate-limit the amount of DHCP traffic that enters a switch port.		
42		The switch should support DHCP Option 82 data Insertion		
43		The switch should support DHCP Option 82 - Configurable Remote ID and Circuit ID		
44	OEM Warranty	3 years warranty on OEM letter head		

L3 Network Switch				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**

1	General	L3 Switch should be a next-generation 40G stackable routing switch has advanced hardware and software architecture design built in dual redundant power supplies.		
2		Switches should provide high availability, scalability, security, energy efficiency, and ease of operation with innovative features such as VSF and redundant power supplies.		
3		It should be with high-density aggregation or core layer for high performance, availability and reliability.		
4		It should deliver high-performance, hardware based IP routing. RIP, OSPF and BGP provide dynamic routing by exchanging routing information with other Layer 3 switches and routers. User can be able to easily achieve Policy based Route (PBR), for multi exit application		
5	Physical port	Switch Should have 8 x 10/100/1000BaseT + 24 x 10GE (SFP+) + 2 x 40 GE (QSFP+). Switch Should be considered with 4 Nos. of 10g SFP+ Module Loaded. Module should be from Switch OEM only		
6	Management port	Switch Should Support 1 x RJ45 Ethernet Management port		
7		Switch supports 1x Console port		
8		1x USB2.0 interface		
9	**Performance**			
10	Switching Capacity	Supports 656Gbps		
11	Throughput	Supports 488Mpps		
12	Jumbo Frame	Supports 16K		
13	MAC Address	Switch Supports 32K		
14	ARP Table	Switch Supports 16K		
15	Routing Table	16K		
16	ACL Table	3K		
17	L3 Interface	Max 2K		
18	**Physical**			
19	Dimension (W*H*D)	440mm x 44mm x 320mm		
20	Relative Humidity	10%~90% non-condensing, storage 95%		
21	Temperature	Working 0°C~50°C, storage -40°C~70°C		
22	Power Supply	AC: 100~240VAC, 50~60Hz		
23		+ 48VDC		
24	Power Consumption	<85W		
25	**Main Features**			
26	L1, L2 Features	Switch have supports IEEE802.3(10Base-T), IEEE802.3u(100Base-TX), IEEE802.3z(1000BASE-X), IEEE802.3ab(1000Base-T),		

		IEEE802.3ae(10GBase), IEEE802.3x, IEEE802.3ak(10GBASE-CX4), IEEE 802.3ba		
27		Switch have supports Port loopback detection		
28		Switch have supports LLDP and LLDP-MED		
29		UDLD		
30		802.3ad LACP, max 128 group trunks with max 8 ports for each trunk		
31		LACP load balance		
32		N:1 Port Mirroring		
33		RSPAN		
34		IEEEE802.1d(STP)		
35		IEEEE802.1w(RSTP)		
36		IEEEE802.1s(MSTP)		
37		Root Guard		
38		BPDU Guard		
39		802.1Q, 4K VLAN		
40		MAC VLAN, Vocie VLAN, PVLAN, Protocol VLAN, Multicast VLAN		
41		QinQ, Selective QinQ, Flexible QinQ		
42		GVRP		
43		N:1 VLAN Translation		
44		Switch supports Broadcast / Multicast / Unicast Storm Control		
45		Switch have supports IGMP v1/v2/v3 Snooping and L2 Query		
46		Switch have supports ND Snooping		
47		Switch supports MLDv1/v2 Snooping		
48		Switch supports Port Security		
49		Flow Control: HOL, IEEE802.3x		
50		Switch supports Bandwidth Control		
51	L3 Features	Switch have supports Static Routing,RIPv1/v2,OSPFv2,BGP4		
52		OSPFv3, BGP4+		
53		OSPF multiple process		
54		LPM Routing		
55		Policy-based Routing(PBR) for IPv4 and IPv6		
56		Switch supports VRRP		
57		URPF,		
58		ECMP		
59		BFD		
60		IGMP v1/v2/v3, IGMP Proxy,		
61		DVMRP,PIM-DM,PIM-SM,PIM-SSM, Any Cast RP, MSDP		

62		Static Multicast Route		
63		Multicast Receive Control		
64		Illegal Multicast Source Detect		
65		ARP Guard, Local ARP proxy, Proxy ARP, ARP Binding, Gratuitous ARP, ARP Limit		
66		Anti ARP/NDP Cheat, Anti ARP/NDP Scan		
67		DNS Client, DNS Relay		
68	IPv6	ICMPv6,ND,DNSv6		
69		IPv6 LPM Routing,IPv6 Policy-based Routing(PBR)		
70		IPv6 VRRPv3,IPv6 URPF,IPv6 RA		
71		RIPng,OSPFv3,BGP4+		
72		MLD Snooping,IPv6 Multicast VLAN		
73		MLDv1/v2, PIM-SM/DM for IPv6, IPv6 Any Cast RP, IPv6 ACL, IPv6 QoS		
74	QoS	8 Queues		
75		SWRR, SP, WRR, DWRR, SDWRR		
76		Traffic Classification Based on 802.1p COS, ToS, DiffServ DSCP, ACL, port number		
77		Traffic Policing		
78		PRI Mark/Remark		
79	ACL	IP ACL ,MAC ACL,IP-MAC ACL		
80		Switch Supports Standard and Expanded ACL Based on source/destination IP or MAC, IP Protocol, TCP/UDP port, DSCP, ToS, IP Precedence), VLAN, Tag/Untag, CoS		
81		REDIRECT and Accounting based ACL		
82		Rules can be configured to port, VLAN, VLAN routing interfaces		
83		Time Ranged ACL		
84	Security	Switch Supports 802.1x AAA		
85		Switch Supports Port, MAC based authentication		
86		Accounting based on time length and traffic		
87		Switch Supports Guest VLAN and auto VLAN		
88		RADIUS for IPv4 and IPv6		
89		TACACS+ for IPv4 and IPv6		
90		MAB		
91	Traffic Monitor	DHCP Server/Client for IPv4/IPv6		
92		DHCP Relay/Option 82		
93		DHCP Snooping/Option 82		
94		sFlow Traffic Analysis		
95	Security Network Management	Switch have CLI, WEB, Telnet, SNMPv1/v2c/v3 through IPv4 and IPv6		

96		Switch Supports Syslog and external Syslog Server		
97		HTTP SSL		
98		SNMP MIB, SNMP TRAP		
99		FTP/TFTP		
100		SNTP/NTP		
101		RMOM 1,2,3,9		
102		Authentication by Radius/TACACS		
103		SSH v1/v2		
104		Dual firmware images/ Configuration files		
105		802.3ah OAM, 802.1ag OAM		
106	Data Centre Features	Switch Supports VSF(Virtual Switch Framework)		
107	OEM Warranty	3 years warranty on OEM letter head		

10G SFP Module				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Architecture	1-port mini-GBIC LX SFP + LC TypeTransceiver		
2	Connector	It should have duplex LC Connector		
3	Flow control	Support 802.3e		
4	Mode	9/125 um Single mode Fiber Type up to 10 KM.		
5	Support wavelength	1310nm		
6	Power Support	3.3V		
7	Case Operating Temperature	support up to 0º~70º		
8	Storage Relative Humidity	support up to 5% to 95%		
9	Warranty	3 years warranty		

1G SFP Module				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Architecture	1-port mini-GBIC LX Single-mode Fiber Transceiver		
2	Connector	It should have duplex LC Connector		
3	Flow control	Support 802.3x		
4	Mode	9/125 um Single mode Fiber Type up to 20 KM.		
5	Support wavelength	1310nm		
6	Power Support	3.3V		
7	Warranty	3 OEM years warranty		

PTZ Camera

Sr. No.	Parameter	Required Specifications	Compliance (Yes/ No)	Remark
1	General	Max. 2megapixel (1920 x 1080) resolution • 4.44 ~ 142.6mm (Optical 32x) lens • Max. IR viewable length : 200m (656ft) • Day & Night (ICR), WDR (150dB), DIS (Built-in gyro sensor) • Intelligent Video / Audio Analytics, Shock detection • Azimuth display (Cardinal & intermediate directions) • Multiple streaming • H.265, H.264, MJPEG codec support • MicroSD / SDHC / SDXC memory 2 slots (Up to 512 GB) • IP66, IK10		
2	Image Sensor	1/3” Progressive Scan CMOS or better		
3	Day/ Night Operation	Automatic with IR Cut Filter		
4	Minimum Illumination	Colour: 0.1 Lux or better B/W": 0 Lux IR: Built in or External IR upto 200 Meters or better		
5	high-speed pan-tilt functionality	360° endless pan range and 90° tilt range or better		
6	Optical Zoom	32x Minimum & 12x Digital Zoom or better 4.44 - 142 mm or better (+/- 1mm)		
7	Pan, tilt, manual and preset speed The speed shall be applicable for Manual, Tour and Preset Mode	250 °/s or better		
8	Image Resolution	1920 x 1080 or better		
9	Compression	H.265 Baseline, Main and High Profiles		
10	Frame Rate and Bit Rate	Up to 50 fps with Controllable bit rate, frame rate and Maximum Bit rate		
11	Video Streams	Minimum 4 Nos., individually configurable streams @ H.265, full resolution, full frate rate		
12	Motion Detection	Yes built in with multiple configurable areas in the video stream		
13	Electronic Shutter	1 to 1/12,000sec or better		
14	Electronic Exposure & Control	Automatic/ Manual		
15	Wide Dynamic Range	130 dB or better		
16	Backlight & Highlight Compensation	Built in, Required		
17	Electronic Image Stabilization	Built in, Required		
18	Privacy Masks	Minimum 10 configurable zones or better		
19	Preset Positions	Minimum 256 or better		

20	Image Flip	Yes Automatic		
21	Built In Heater & FAN	Required		
22	Audio	Two Way, built in or external, required		
23	Alarm	1 Input/ Output Ports or better		
24	On-screen directional indicator	Required		
25	Event Triggers	Motion detection, Direction Detection, Fog & Face Detection, Shock Detetection, Tampering, Audio detection & Sound Classification, Entry/Exit, Alarm input, Network disconnection The VA shall be Edge based (Built in of Third Party) or In case of server based additional server shall be considered		
26	Event Actions	FTP, HTTP, Email notification, PTZ Preset, Edge Storage, Alarm Output, Text Overlay		
27	Edge Storage	512 GB or Better		
28	Protocals	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour		
29	Text Overlay	Date & time, and a customer-specific text, camera name, graphical image etc		
30	Security	Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, Digest authentication, User access log		
31	Firmware Upgrade	The firmware upgrade shall be done though web interface, The firmware shall be available free of cost		
32	Interface	RJ 45, 100 Base TX or better		
33	Enclosure	IP66, IK10 and NEMA 4X rated or better		
34	Mount	Wall / Pole Mount		
35	Power requirements	24VAC, HPoE or better (HPOE Preferred)		
36	Operating Temperature	-50 °C to 55 °C or better		
37	Operating Humidity	Max 90% RH or better		
38	Memory	512 MB RAM, 256 MB Flash or better		
39	Certification	UL, CE, FCC, BIS		
40	Embedded Applications	The camera shall provide a platform allowing the upload of third party applications into the camera		
41	Application Programmers Interface	1. The interface shall be available for integration with 3rd party analytics and applications in public domain 2. Onvif S/G or better		

Multi sensor 360 degree camera				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**

1	General	Multi-Sensor Multi-Directional dome camera provides 4x 5MP sensors for a total resolution of 20MP. Each camera head features 30fps, PTRZ (Pan/Tilt/Rotate/Zoom) remote adjustment, triple codec H.265/H.264/MJPEG, 120dB WDR, defocus detection, built-in analytics, true D/N, 4x SD card slots, hallway view, HLC, defog detection, Bi-Directional Audio, Alarm I/O 1/1, HPoE (injector included), IP66/IK10, -40°C ~ +55°C (-40°F ~ +131°F), White camera body		
2	Image Sensor	4 x 1/3" Progressive Scan CMOS or better		
3	Day/ Night Operation	Automatic with IR Cut Filter		
4	Minimum Illumination	Colour: 0.1 Lux or better B/W": 0 Lux IR: Built in or External IR upto 30 Meters or better		
5	Pan/ Tilt/ Rotate	Up to 360 Degree/ 40-80 Degree/ 90 Degree Manual or remote adjustment		
6	Lens	5mm fixed or better with Up to 360 Degree coverage		
7	Image Resolution	2560x1920 or better		
8	Compression	H.264/H.265 Baseline, Main and High Profiles		
9	Frame Rate and Bit Rate	Upto 25 fps with Controllable bit rate, frame rate and Maximum Bit rate		
10	Video Streams	Minimum 4 Nos, individually configurable streams in H.264,H.265 @ 2560x1920 & 25 Fps and Motion JPEG		
11	Motion Detection	Yes built in with multiple configurable areas		
12	Electronic Shutter	1 to 1/12,000sec or better		
13	Wide Dynamic Range	120 dB or Better		
14	Backlight & Highlight Compensation	Built in, Required		
15	Electronic Image Stabilization	Required		
16	Privacy Masks	Minimum 10 configurable zones or better		
17	Image Flip	Yes Automatic		
18	Audio	Two Way, built in or external, required		
19	Alarm	1 Input/ Output Ports or better		
20	Event Triggers	Motion detection, Direction Detection, Defocus Detection, Shock Detection, Appear/ Disappear or Object Missing/Unattended, Tampering, Audio detection, Entry/Exit, Alarm input, Network disconnection The VA shall be Edge based (Built in of Third Party) or In case of server based additional server shall be considered		
21	Event Actions	FTP, HTTP, Email notification, PTZ Preset, Edge Storage, Alarm Output, Text Overlay		
22	Edge Storage	512 GB or Better		

23	Protocols	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour		
24	Text Overlay	Date & time, and a customer-specific text, camera name, graphical image etc		
25	Security	Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, Digest authentication, User access log		
26	Firmware Upgrade	The firmware upgrade shall be done though web interface, The firmware shall be available free of cost		
27	Interface	RJ 45, 100 Base TX or better		
28	Enclosure	IP66, IK10 and NEMA 4X rated or better		
29	Mount	Wall / Pole Mount		
30	Power requirements	12VDC or 24VAC or HPoE or better (HPOE Preferred)		
31	Operating Temperature	-20 °C to 55 °C or better		
32	Operating Humidity	Max 90% RH or better		
33	Memory	512 MB RAM, 256 MB Flash or better		
34	Certification	UL, CE, FCC		
35	Embedded Applications	The camera shall provide a platform allowing the upload of third party applications into the camera		
36	Application Programmers Interface	The interface shall be available for integration with 3rd party analytics and applications in public domain free of cost		
37	Onvif	Support Required		

Bullet outdoor IR camera				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	Outdoor bullet IP Camera - Max. 2megapixel (1920 x 1080) resolution, 0.03Lux (Color), 0Lux (B/W, IR LED on), 3.2 ~ 10mm (3.1x) vari focal lens, Max. 30fps@2M all resolutions (H.265/H.264), H.265, H.264, MJPEG codec supported, Multiple streaming, defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering. Virtual line, Tampering, Hallway view (90˚/270˚), LDC support, Micro SD/SDHC/SDXC memory slot (Max. 128GB), IR viewable length 30m, IP66, IK10, PoE/12VDC		
2	Image Sensor	1/3” progressive scan RGB CMOS or better		
3	Day/ Night Operation	Yes with IR Cut Filter		
4	Minimum Illumination	Color: 0.2 lux; B/W 0 Lux with IR		
5	Lens	3-10 mm (+/- 1mm) Varifocal Lens or better		

6	Electronic Shutter	1/5 to 1/10,000sec or better		
7	Image Resolution	1920 x 1080 or better		
8	Compression	H.265 or better		
9	Frame Rate and Bit Rate	Up to 25 fps with Controllable bit rate, frame rate and Maximum Bit rate		
10	Video Streams	Minimum 3 Nos, individually configurable streams in H.265 @ 1920 x 1080 & 25 Fps and Motion JPEG or better		
11	Motion Detection	Yes built in with multiple configurable areas in the video stream.		
12	Lens/ Barrel Distortion Correction & Corridor View	Built in feature required		
13	Wide Dynamic Range	120 dB or better		
14	IR	30 Meter (Built in or External) IR, External IR Shall be of the same make of camera		
15	Alarm	1 Input & 1 Output		
16	Audio	mic in/line in or better		
17	Analytics	Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line The VA shall be Edge based (Built in or Third Party) or In case of server based additional server shall be considered		
18	Event Triggers	Alarm input, Motion detection, Analytics, Network disconnect		
19	Event Actions	FTP, HTTP, Email notification, Edge Storage, Alarm Output		
20	Edge Storage	Support required		
21	Protocols	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, SRTP (TCP, UDP Unicast)		
22	Security	Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, Digest authentication, User access log		
23	Firmware Upgrade	The firmware upgrade shall be done though web interface, The firmware shall be available free of cost		
24	Interface	RJ 45, 100 Base TX or better		
25	Memory	512 MB RAM, 256 MB Flash or better		
26	Enclosure	IP66,IK10 or better		
27	Power requirements	Vendor to specify, POE Preferred		
28	Operating Temperature	-20 °C to 55 °C or better		
29	Operating Humidity	Max 90% RH or better		
30	Certification	UL, CE, FCC,BIS		

31	Application Programmers Interface	1. The interface shall be available for integration with 3rd party analytics and applications in public domain 2. Onvif S/G		
32	Embedded Applications	The camera shall provide a platform allowing the upload of third party applications into the camera		
33	Mount	Wall Mount/ Pole Mount		
34	Application Programmers Interface	1. The interface shall be available for integration with 3rd party analytics and applications in public domain 2. Onvif S/G		
35	Embedded Applications	The camera shall provide a platform allowing the upload of third party applications into the camera		
36	Mount	Wall Mount/ Pole Mount		

Network Joystick				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	PTZ Control	3 axis Joystick		
2	Interface	USB 2.0 DirectX		
3	Operating Temperature	-10 to 70 Degree C		

Video management software (VMS)				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General parameters	The system shall be open platform with integration with at least 64 IP camera leading brands in the world. The client OS platform shall be able to run with Microsoft Windows and MAC platforms. (list of integrated brands to be submitted)		
2		The system shall be Windows/ Linux platform. The OS can be embedded in device without extra installation.		
3		The central Management Server supports unlimited cameras, 3rd party access control systems (System tested: 1024 channels of cameras, within 32 pcs of Recording Server)		
4		System can manipulate camera views by changing its viewing angle and image size to allow for a seamless multi-pane panoramic view. Up to 10 independent cameras can be set up as single view		
5		Intelligent Search: Intuitive post-event motion search for suspicious areas on video and post-event 3rd party data keyword search then query related camera recording. The system can also search events and double clicking query associated recording		

6		Multi-View: Client PC can duplicate the same live view video onto multiple channels and digitally zoom in to see the details of different spots on cloned channels without losing the original live view video		
7		Individual recycle condition (IRC) for each video. Users can assign retention days for each server based on the importance of the critical storage needs		
8		System should support following IVS: (Object Classification, Camera Shake Elimination, Presence (Tripwire), Enter and exit, Appear and disappear, Dwell (loitering), Tailgating, Stop, wrong Direction, missing object detection, foreign object detection, counting)		
9		Multiple event-based and schedule-based recording modes, including continuous record, record on event, manual record, event-based and schedule-based boosting record. It also supports pre-event and post-event recording for continuous record to make sure ensure that the event is captured		
10		Failover support: N:M failover support		
11		The system shall support dual gigabit Ethernet ports.		
12		The system shall be able to synchronize time with NTP server(Internet Time Server)		
13		The system shall be able to centrally configure all devices and system settings on one interface.		
14		The system shall support system status watchdog and automatically restart the system when abnormal event happened.		
15		The system shall be Server-Client Architecture and centralizes all video data transaction only via server to remote clients.		
16		The system shall include management server, recording server, metadata server, and client for configuring and viewing		
17		The management server shall be able to centrally manage all servers in the system including configuration, license management, and event monitor.		
18		The system shall support user priority of locking PTZ, Preset point and Patrol control. When PTZ control lock, only user with higher or equal control priority can unlock it.		
19		The system shall be able to view event notification on e-map.		
20		The system shall support volume load balance, enabling user manually distributes cameras recording to different target volumes		
21		The system shall support individual recycle condition for every camera and 3rd party channel DB.		

22		The system shall support up to 4 monitors through client software.		
23		The instant playback shall enable user sync the video to playback instantly.		
24		The playback system shall support up to 100 channel playback simultaneously on one monitor, up to 400 ch live view on single client PC and it should be able to playback from different servers.		
25		The system shall support digital PTZ on recorded video.		
26		The system shall support multiple E-maps layers.		
27		All VMS components like VMS Software, storage, Management server, recording server, failover server, and storage should be from single OEM		
28		System should readily support perimeter protection system.		
29	Recording Server	Type Rack-mount 2U		
30		CPU INTEL (suitable to handle up to 128 cameras in single server as per server OEM)		
31		Qty of recording server: 2 nos		
32		OS LATEST WINDOWS / LINUX		
33		Camera Channels Support up to 128 ch in single unit or better		
34		Throughput Up to 500mbps or better		
35		RAM 2 GB or better		
36		Number of Drives 6 x SATA III or better		
37	Storage for VMS	Type Rack-mount 2U		
38		Number of Drives 8xSATA III or better		
39		Max Storage Per Drive 14TB (Surveillance / enterprise SATA/SAS drives)		
40		Max internal storage 112TB		
41		RAID Level RAID 0,1, 5, 10		
42		I/O Interface 2xUSB3.0, 2xUSB2.0, 1xeSATA (for DAS)		
43		Voltage 100-240V		
44		Power Consumption 500W		
45		Storage support: Each camera 2MP@25fps,		
46		Network File Protocol NFS		
47		Hardware watchdog Required		
48		Failover support N:M failover support		
49		Open Platform Storage, 8 bay, as per specs. Network Storage System - 7200 RPM 8Gbps SAS Hard Disks; Storage system is required with a capacity to store the content for up to 200 cameras from Day 1 for 24Hrs x 30days at 25fps, 720p for indoor cameras and at 25fps, 1080p for outdoor cameras. It should be scalable (should have sufficient expansion bays for HDDs) bidder shall submit bandwidth and storage calculations for the proposed camera models and shall propose model and the no. of HDDs for approval accordingly.		
50	Management Server	Type : -Rack mount		

51		CPU:- Intel (suitable for management server)		
52		Storage:4xSATA II		
53		Max Storage Per Drive - 14TB		
54		Max - Internal Storage - 56TB		
55		RAID 0,1, 5, 10		
56		6xUSB 2.0 (for mouse, UPS); 1xeSATA (for DAS)		
57		Range - 100-240V		
58		Consumption - 200W		
59	Failover Server	Yes required		
60	Client PC	Any branded client PC with minimum specifications of Core i5 Processor, 4GB RAM, 1TB HDD, 2GB Graphics Card).		
61	Warranty / Technical Support	OEM should provide 3 years warranty certificate for project support including but not limited to technical support, firmware upgrade, features update, device pack and care packs and L1, L2, and L3 trouble shoot		

Network management software (NMS)				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1		The solution should be scalable to monitor & manage more than 1000 plus devices and minimum 3 reference case studies should be provided.		
2		The OEM should have a support centre in any of the SAARC countries (Bangladesh, India, Nepal, Bhutan, Sri Lanka, Maldives, Pakistan, Afghanistan)		
3		The solution should be capable of running in Linux platform with open source database as backend and should be 64-bit application to fully utilize the server resources on which it is installed		
4		The solution should be available as Commercial-Off-The-Shelf (COTS) software		
5		The tool must be certified by Pink Verify for ITIL v3 on at least 13 ITIL processes and certificate must be provided on request		
6		The organization should have ISO 270001 certification for their internal processes and certificate must be provided		
7		The solution should have dual-stack IP support (support both IPv4 and IPv6) and should be completely vendor-agnostic in nature to be able to monitor a multi-vendor environment		
8		The solution should be a unified system which can monitor networks, servers, apps and any IT or Non-IT Communicable device (ex.: RF device, VSAT etc.)		
9		The solution should be completely multi-tenant where in every module and system being used can be assigned to a specific set of users or a group of users.		

10		The system should be capable to retrieve and show fault, performance, inventory and SLA data in a single dynamic view with option to export the views into PDF, Word, Excel, HTML etc. formats depending on the need. System should have capability to add any additional information about the nodes via custom fields.		
11		System should have Node Tags for device grouping and resource/interface tagging for element grouping. Apart from Node Tags additionally system should have options to do device grouping based on default fields and customer fields		
12		No restriction in the number of level of grouping for the devices should be supported and provide the option to increase the grouping based on the need without affecting the existing grouping structure. System should also provides the option to create the grouping based on the service offered to customer and map all the devices involved in the specific service till the component / resource level		
13		Provides the option to have the portal account to the end customers with restricted views limits to their specific infrastructure. System should have the capability to be implementing in DMZ and non-DMZ zone with adequate security.		
14		Tool must provide Role based Access Control option		
15		The system should have an integrated ITILv3 certified ITSM tool from the same OEM. In future, it should be possible to use the service management features like Incident Logging, Viewing, Assignment, Escalation, Reporting, SLA Management etc. in the Service Manager tool GUI. The integration should be bi-directional in nature.		
16		Tool must provide intelligent Email-to-Incident feature in which tool admin has the option to allow certain domains for automatic conversion of emails to tickets. Tool should merge all subsequent email communication for a particular email-to-incident ticket into the same ticket in the form of a message thread. Tool should be intelligent enough to understand email conversation chains for merging emails to a particular incident. Merging logic should be not only based on TicketID but also on email sender, cc responses to that email chain		
17		Tool should be able to provide real-time Email, SMS Notification alerts to notify respective users about any changes in ticket state and status. Tool should provide Email Communication Interface to allow technicians to send replies to customers / end users from the tool GUI and Record all the Email Communication in Chronological Order		
18		The integrated ITSM module should have its own Android & IOS app		
19		Integrated ITSM tool must have option to publish announcements and surveys for notifying end users / requesters about any important information with option to schedule it for certain time period along with questions to get their feedback on the efficiency of the IT support team		

20		System should have a bi-directional integrated NCCM tool with option to use NCCM features in future easily by enabling the license for it without having to do any additional installations. The integration should allow assets and topology to sync from the NMS module to the NCCM features for helping in Root-Cause-Analysis of faults		
21		System should have option for multiple options for discovery including IP address based discovery, IP address range discovery, CSV based discovery for bulk discovery and it should allow options to add custom fields to support customer specific data to upload during discovery		
22		The system should fetch topology via SNMP for ARP tables from routers , MAC tables from layer 2 switches, cisco Discovery Protocol, Link Layer Discovery Protocol, Foundry Discovery Protocol or SynOptics Network Management Protocol. The discovery should be automated and continuous.		
23		Discovery has to work intelligently by identifying the device in the network by the given IP range and categorize into network devices and servers with vendor and model details.		
24		Automatically learn devices that supports SNMP, HTTP, Ping, SMTP, POP3, WMI,JMX, SOAP, REST API,PDC, SSH and Telnet along with any required protocol to communicate to the devices.		
25		System should support global threshold and it should have option to define individual resource/interface statistics level threshold		
26		System should have built in self learning algorithms to auto baseline and auto calculate thresholds of components or nodes to enable tool admin to start the monitoring with zero threshold configurations		
27		Configurable parameters like frequency, data duration, resolution duration, sigma based polarity value, reset points should be available		
28		All thresholds should have set point , reset point, polarity , set point message and reset point message for ease of use.		
29		Detect & highlight faults (abnormal situations) in near real-time occurring anywhere within the monitored IT Infrastructure		
30		Provides Filtering, De-duplication, Holding, Suppression and Correlation capability to let user focus on the critical event that affects the business and business processes		
31		Provides multi-level (preferably six-level) Severity definition, will handle events automatically and inform the designated person as per operational requirement		

32		System should support separate Rule Engine based alarms apart from the generic threshold. a. Should have capability to configure Device Group based, Node Based, Resources/Interface based, Aggregation link based. b. On Selection of Nodes/Resources/Aggregation links it have flexibility to filter based on fields available in node information c. Rules should have option to apply configuration on top of performance value or based on configured threshold alarms d. Rules should have option configure the breach based on min, max and average values e. Should have option to configure rules n repeat counters f. Should have options to select custom alarm and clear alarm messages for individual configured rules g. Should have option to send severity levels like error, warning and information h. Notifications support based on configured rules		
33		Provides alarm suppression with hold time and aid in prevention of flooding		
34		Sends alert via E-mail, SMS, Execute Batch file, SNMP Trap, XML notification, Pop-up window and Audio alert		
35		Monitors all traffic from all the interfaces of the network device. Provides traffic Utilization based on individual interface level, nodes level or based on the group by location, branch, departments etc.… as an Avg, Min and Max bandwidth, utilization, throughput or any custom monitoring parameters.		
36		Provision to change the polling interval to any frequency depending on the priority till the individual component / resource level like each interface might have the different polling interval in the same device based of the criticality and importance of service customer		
37		System should have capability to configure business , non-business hours or custom time polling. These configuration should be available for every device as well as every component in the device.		
38		Provision to disable and enable the polling of specific type of devices		
39		System should have capability to configure the maintenance period for any device. When device is in maintenance period there is no polling done and the SLA clock on the device is stopped.		
40		SLA calculation / Isolation report should be made with the consideration of both the Primary and Secondary link together instead of individual link based. The downtime calculation will be measured when both the links are down for internal reporting and link based for ISP reporting. System should provide the flexible configuration in UI itself based on user needs		
41		The solution should be able to stop SLA calculation for every node in case of know downtimes. These should be a one click alarm masking capability in the system		

42		Provide a notification mechanism that allows administrator to define what notification channel to be used in different time of days, and able to trigger multiple notifications to alert multiple person and actions		
43		Provide escalation and acknowledgement function to provide the mechanism to ensure alternative personnel will be alerted when there is a critical situation and acknowledgement mechanism for generated alerts. The escalation should be available for any number of hierarchical sequence.		
44		Provide standard reports that display current status of nodes and interfaces. Reports could be viewed on daily graph (5 minute average), weekly graph (1 hour average minute average), monthly graph (1 hour average) and yearly graph (1 day average)		
45		Provide online and offline reports that allow the user to view the present usage of their devices. Reports generates should be exportable in the format of HTML, PDF, Excel and CSV. Allows end-users to browse all reports using any web browser like Internet Explorer, Mozilla Firefox, Google Chrome etc. without the need to install any report specific software		
46		Automatically generate daily reports that provide a summary of the IT Infrastructure as well as custom Reports and that are automatically sent by email at a pre-defined schedule to any recipient or save into any specific folder or drive.		
47		Supports instant diagnosis of the node status through Ping, Telnet and SNMPwalk		
48		Support Real-Time report generation for checking continuous reachability of target device		
49		System should provide many different types of topology representation. To perform the following : 1. Display physical connections of the different devices being monitored in the system 2. Display flat maps of the entire network or networks in a single view 3. Display customer maps based on user configurations 4. Display maps based on geo locations		
50		Automatically learn IP Networks and their segments, LANs, hosts, switches, routers, firewalls etc. and to establish the connections and to correlate		
51		Tool should have option to display distance between devices in Topology Maps especially for branch gateway devices		
52		Provides provision to draw & map user specific network diagram		
53		The tool should have Integrated Web based feature to build Network Diagram, No separate client window to configure network Diagram. The builder should be similar to MS Visio with all pre-loaded shapes and icons.		

54		It should be a Drag & Drop based Network Diagram builder, Dynamically Upload Images, Customizable objects to support multiple vendors, capability to export maps in an XML format and upload to any other system.		
55		Panel View a. Panel view should look similar to the actual device front panel b. System should automatically detect the device model display the right panel without any additional configuration c. Panel should show all the monitored interface with status d. Fan status with live fan icon and LED status for power		
56		Tool should have complete inventory information of the assets discovered along with an option to fetch the target network device EoL / EoS information if required		
57		Tool must support CLI-based network device configuration snapshot management including backup of configuration files, traffic logs, messages etc , pushing configuration files to target network devices, with option to perform remote firmware upgrades.		
58		The configuration changes to be done on target network devices must follow an approval-based system wherein changes can be performed only after required approvals are passed. Tool must have in-built approval mechanism along with option to integrate with Change Management module of other ITSM tools for the approval process.		
59		Tool must provide option for target CLI-based network device vulnerability detection based on their model number and firmware version. It should also provide options to remedy the vulnerabilities with help of pre-configured scripts for certain vulnerability types.		
60		Tool must provide option to perform standard compliance checks like PCI-DSS, NIST, DISA etc. across all target CLI-based network devices		
61		Tool must provide an option for taking remote access via Telnet / SSH to target CLI-based Network Devices with an option to record all sessions to capture all commands being executed on the remote devices. The tool must allow session relay wherein a higher-privileged user can view the ongoing CLI session of a lower-privileged user in real-time from the tool GUI. The sessions should be saved for historical analysis with flexible filter options like searching for sessions in which a particular command has been executed.		
62		The proposed monitoring solution should be able to monitor network traffic by capturing flow data from network devices, including Cisco Netflow v5 or v9, Juniper J-Flow, IPFIX, sFlow, NetStream data and also sampled Netflow data. Solution must be able to store ALL flows without any rollups or loss for retention period - for security and audit purposes.		
63		Should identify which users, applications, protocols, countries, AS numbers, top routers, and top interfaces are consuming the most bandwidth		

64		System should have capability to alternatively capture traffic data via packet capture.		
65		Should be able to associate traffic coming from different sources to application names		
66		Should be able to receive flows from non-SNMP-enabled devices, like VMware vSwitch		
67		Should monitor Type of Service (ToS), Differentiated Services Codepoint (DSCP), and Per-Hop Behavior (PHB),BGP AS and NEXT HOP		
68		Should provide flow analysis with 1-minute granularity and The solution should be able to monitor up to 5 million flows per second, and should employs advanced optimization methods		
69		Tool should allow QoS monitoring of WAN links across multiple technologies like Cisco IPSLA, Juniper RPM, Huawei NQA etc. across multiple protocols like HTTP, TCP, FTP, DNS etc.		
70		QoS parameters should include link response time, link-level latency, link-level packet loss, link-level jitter, Round-Trip-Time etc.		
71		Should monitor Class-Based Quality of Service (CBQoS) to find out if traffic prioritization policies are effective and if business-critical applications have network traffic priority. Should also support CBQoS Nested policies		
72		Tool should have option to collect and store system logs from target devices including firewalls, routers, switches, WLC, servers, applications & databases		
73		Tool should have multiple filtering options for incoming system logs based on target device, log_ID, severity, level, message, OS type, application / database etc.		
74		Tool should have option to export specific syslog messages to users via email / SMS		
75		System should support VM, Hypervisor and Cluster monitoring from different vendors like VMWare, Citrix, Nutanix, Linux etc.		
76		System licensing should be based only on Physical Hosts and not charge separately for individual guest VMs running on VM Hosts		
77		System show have capability to monitor availability and performance of industry standard web server like IIS / Tomcat / Apache / Jboss, email server like Exchange / Zimbra / Lotus Notes, and databases like Oracle / MSSQL / MySQL / PostgreSQL etc.		
78		System show have capability to monitor HTTP service, HTTPS service, FTP server statistics, POP/SMTP services, ICMP services or any customer specific port based systems		
79		Cover geographically distributed networks through multi-level scalable distributed deployment architecture		
80		Ability to add new pollers at no extra cost.		
81		The tool should have option to be deployed in HA mode (High Availability) for redundancy purpose		

82		Integration should provide the option in both north as well as south bound integration on each module level. Any fault details should be able to send to third party CRM, Customer Portal, UNMS or even EMS if needed using the Trap, XML and even direct database query integration		
83		Provide 12+ open APIs in the system which can be used by customers for integrating their own systems. Integration should provide the option in both north as well as south bound integration using multiple options like RestAPI, XML, SOAP, Corba etc. on each module level. Any fault details should be able to send to third party CRM, Customer Portal, UNMS or even EMS if needed using the Trap, XML and even direct database query integration		

KVM Switch				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	KVM Switch should support 1x 4-Port USB KVM Switch 2x Hotkey Stickers 1x User Instructions		
2	Computer Connections	4		
3	Port Selection	Hotkey		
4	Console Ports	1 x HDB-15 Female 2 x USB Type A Female 1 x 3.5mm Audio Jack Female		
5	KVM Ports	4 x HDB-15 Male 4 x USB Type A Male 4 x 3.5mm Audio Jack Male		
6	Cable Length	2 x 0.9 m		
7	Keyboard / Mouse	USB		
8	Video	2048 x 1536; DDC2B		
9	Scan Interval	1-99 secs. (Default 5 secs.)		
10	Operating Temperature	0 - 50°C		
11	Humidity	0-80% RH, Non-condensing		
12	Dimensions (L x W x H)	9.41 x 9.72 x 2.60 cm		

LED Display				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	40" Commercial LED TV with Commercial Grade Stand		
2		External Speaker Out Compatibility		
3		IR Pass Through and Control		
4		USB Cloning		

5	Display	Diagonal Size: 39.6"		
6		Type: Direct LED		
7		Static Contrast Ratio should be 4000:1		
8		Dynamic Contrast Ratio should be 1000000:1		
9		Resolution : 1,920 x 1,080 (FHD)		
10		Frame Rate: 60 Hz		
11		Viewing Angle Degree: 176° / 176°		
12	Broadcasting system	Analog : NTSC		
13		Digital: ATSC / VSB / Clear QAM		
14		MPEG-2 / MPEG-4 H.264 DECODING		
15	Video	Aspect Ratio: 6 modes (16:9, Just Scan, Set by Program, 4:3, Zoom, Cinema Zoom 1)		
16		Picture Mode: 7 modes (Vivid, Standard, APS, Cinema, Sports, Game, Expert 1, Expert 2)		
17		Triple XD Engine		
18		Real 24p (3:3 pull down)		
19	Audio	Clear Voice		
20		6 modes (Standard, News, Music, Cinema, Sport, Game)		
21		Audio Output / Speaker System: 10W + 10W / 2.0 ch		
22	Management	Self Diagnostics via USB, TVLink Interactive (RS-232C), IR Out, Multi IR Code		
23	Interactivity	HTNG / HDMI-CEC		
24	Anti-theft System	Kensington Lock / Security Screw Hole / Lock Down Plate / Commercial Grade Stand		
25	USB Media	USB Auto playback+, Moving Picture Playback (.asf, .wmv, .divx, .avi, .mp4, .m4v, .mov, .mpg, .mpeg, .mpe, etc.), Picture (jpeg, jpg, jpe, BMP, PNG), Audio Codec (MP3, AAC, M4A, WMA, WMA 10 pro, OGG)		
26	Advanced features	Auto Off / Sleep Timer, Smart Energy Saving, Motion Eye Care		
27	Installation	USB Cloning		
28	RJP Compatibility	Yes		
29	Features	Public Display Mode (PDM), Lock Mode, Welcome Screen (Splash Image), Insert Image, External Speaker Out, RJP Compatibility, Time Scheduler		
30	Interface	Side: HDMI In (2), USB 2.0		
31		Rear: RF In, AV In (Sharing with Component In), Component In (RCA5 Type), Digital Optical Audio Out, HDMI Input, RGB In, PC Audio Input (Sharing with Component Audio), RS-232C In, External Speaker Out		
32	Size W x H x D (w/o stand)	35.9" x 20.8" x 2.2"		
33	Weight (w/o stand)	16.5lb		

34	Accessories	Power Cable (5.9 ft., Angle Type), Owner's Manual / Easy Setup Guide		
35	Power	100 ~ 240V, 50/60Hz		
36	Standards	RoHS, UL, NOM, FCC		
37	Warranty	3 years on site		

Video Wall				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	General	Video wall display as specialised heavy duty brackets for monitoring		
2	Please mention Make Model No. or Part Code	Make and Mode		
3	Display Wall Screen Size	55" Ultra Narrow bezel with 1.8 mm bezel to bezel or lesser (even bezel on each side not more than 0.9 mm) in 3 x 2 matrix view to display and operate as single unified display view		
4	Panel Technology	IPS		
5	Native Resolution	1920 x 1080		
6	Aspect Ratio	16:09		
7	Panel Type	LCD LED IPS panel		
8	Brightness	on screen brightness minimum 500 cd/m2		
9	Brightness Uniformity	>80%		
10	Contrast ratio	Min. 1400:1 with 500000:1 Dynamic Contrast Ratio		
11	Colour Calibration & White Balance	Colour and White Balance easy management mechanism should be in-built in display		
12	Image Gap Reduction	Image Gap reduction algorithm in-built to provide smooth moving video for seamless viewing experience		
13	In-built SoC	The Display should have high performance SoC with own OS to support HTML5 platform for web based applications		
14	Connectivity	Each display module shall support below inputs and output :		
		HDMI x 2		
		Display Port In x 1 & Display Port Out x 1		
		DVI-D		
		USB		
		RJ-45 In & Out (LAN Loop Out)		
15	Full viewing angle	178° x 178°		
16	Lifetime	Normal mode: 50 000 hours		
		MTBF : More than 100000 hours		
17	Loop Circuit	DP In/Out for supporting 4K resolution		
18	Power	100 - 240 VAC, 60 - 50Hz		

19	Power Consumption	Max 180 Watts or lesser		
20	Heat Dissipation	As per OEM		
	Environment conditions			
21	Operating Humidity	Up to 80% non-condensing		
22	Operating Temperature	10°C-40°C | 50°F-105°F		
23	Storage Temperature	0°C-40°C | 32°F-105°F		
24	Safety Certifications	FCC / / BIS / Energy Star		
25	Operating Hours for Display	24 x 7 operation support must. Should be mentioned in data sheet / technical specification sheet of the product offered		
26	Warranty	3 years on site		

Non-IT Specifications				
Sr. No.	**Parameter**	**Required Specifications**	**Compliance (Yes/ No)**	**Remark**
1	Wiring and Cable work	Cable ducts should be of such dimension that the cables laid in it do not touch one another. If found necessary the cable shall be fixed with clamps on the walls of the duct. Cables shall be laid on the walls/on the trays as required using suitable clamping/ fixing arrangement as required. Cables shall be neatly arranged on the trays in such manner that a crisscrossing is avoided and final take off to switch gear is easily facilitated.		
2		Each section of the rising mains shall be provided with suitable wall straps so that same the can be mounted on the wall.		
3		Whenever the rising mains pass through the floor they shall be provided with a built-in fire proof barrier so that this barrier restricts the spread of fire through the rising mains from one section to the other adjacent section.		
4		Neoprene rubber gaskets shall be provided between the covers and channel to satisfy the operating conditions imposed by temperature weathering, durability etc.		
5		The space between data and power cabling should be as per standards and there should not be any crisscross wiring of the two, in order to avoid any interference, or corruption of data.		
6	Cable laying	All Cable routes shall be carefully measured and Cable cut to be required lengths leaving enough length for final termination at either side.		
7		Wherever technically possible Cable should be laid between Camera to Switch without any junction box.		

8	Inside control building	Nylon tie wraps/clamps shall be used for securing & dressing of cable inside the cable tray. Cable shall be tied at the interval of 0.5 meter vertical & 1.0 meter of horizontal run.		
9		All cable runs shall be continued through field junction boxes/camera to the panel inside control room without any splicing in between.		
10		Each cable shall be tied with identification tags at each end of the cable.		
11		All unarmored cable shall be laid inside proper size of conduit.		
12		Cable shall be neatly arranged in trenches in such a manner that crisscrossing is avoided and final take-off to equipment is facilitated.		
13		Cable shall be secured by means of saddle bars and saddles.		
14	Directly buried cables	Trenches shall be excavated (Manual excavation only) along the identified routes and shall be straight and excavated uniformly at the depth of 750 mm minimum. Width of the trench shall be as per site requirement.		
15		After excavation floor of the trench shall be formed with a bedding of sand.		
16		The thickness of the compacted bedding shall not be less than 75 mm.		
17		Proper equipment shall be used for laying of cable such as cable drums, cable jacks, roller and cable shall be laid without kinks and care shall be taken in handling them.		
18		After laying of the cable, it shall be covered with fine sand up to 150 mm above top of the cables. The cable shall be covered using protective cable bricks for cable protection at the top. The tiles are laid above the sand cover.		
19		At road crossing or at specific locations, cable shall be laid in Hume pipe / RCC pipes or any other types of pipes available. After drawing the cables, the end of the pipes will be sealed with sealing compound (Bitumen).		
20		During laying of cable inside existing Hume pipes / RCC pipes and directly buried, care shall be taken for existing installed cables. Any damage to existing installed cable, shall be rectified at the cost of SI as per site requirement.		
21		Wherever space inside Hume pipe / RCC pipes is not sufficient to pass through cables, separate hume pipe shall be provided by manual boring or breaking of road RCC and restoration of the same.		

22		All directly buried cables shall enter the building through an opening made in the wall. The opening made in wall shall be adequately sealed to prevent ingress of soil and sub-soil or water in to the building. Cable entry inside the building shall be through MCT blocks whenever available.		
23		Bituminous or suitable PVC compound shall be used for this purpose.		
24		For multiple runs of cables, separation between individual cables shall be provided to meet separation between power cables and control and signal cables at 300 mm.		
25		Cable markers shall be placed at 15 meters of intervals and where the trench changes direction.		
26	Glanding & termination of cables	Check the cable tag made from aluminium & continuity of cable before glanding & termination.		
27		Armored cables glanding shall be done with double compression type of cable glands.		
28		Armour shall be securly clamped and bonded to the body of the gland.		
29		Before glanding cable loop shall be made in proper shape for extra cable.		
30		All cables are glanded from bottom at panel end.		
31		For all cable termination use proper type & size of lugs in the field Jobs & panels. Also ensure suitable crimping tool is used for crimping of the lugs.		
32		Check the tightness of connection at termination points.		
33		When cables are terminated at equipment ends, strain relief clamps shall be provided where supports for the cable is derived from the equipment which are subjected to vibration so as to prevent displacement of support with respect to termination.		
34	Wiring and Cable work	Core identification ferrules or colored PVC adhesive tape shall be provided for all multi core cables at the point of connections.		
35		Bidder needs to align and compatible with SMRITIVAN Quality, Health, Safety and Environmental policy while carrying out any work in SMRITIVAN premises and terminals		
36		Bidder should commit to high level of QHSE performance to ensure effective and efficient management of deployed resources while performing any work in SMRITIVAN premises and terminals		
37		It is the responsibility of bidder to provide safe work environment, resource conservation , waste management to reduce pollution and improvement in emergency response measures		

38		While performing any work in SMRITIVAN premises and terminals, bidder needs to ensure material and service quality and operate in a way that mitigates and minimizes risks and hazards		
39		While performing any work in SMRITIVAN premises and terminals, bidder needs to comply with legal, regulatory and other requirements applicable to SMRITIVAN as per natural gas transportation business		
40		It is the responsibility of Bidder to provide required and appropriate resources to deployed man power for carrying out work in secure and risk free environment		
41		Bidder shall carry out supply, installation and construction work with due care and diligence in a professional manner using sound engineering, design principles, project management and supervisory procedures which should be in accordance with good industry practices		
42		Bidder shall comply with all laws in force in the country/state where installation and construction services are carried out. The laws will include all local, state, national or other laws that affect the performance of the Bidder and bind upon the Bidder		
43	Permit to Work (PTW)	There shall be requirement of work permit to ensure that work is carried out in the safest possible manner to prevent injuries to personnel, protect property from damage, avoid fire etc. Bidder must get work permit issued before carrying out any work in SMRITIVAN premises and terminals		
44		Bidder shall secure necessary permit from the concerned department and corresponding base location before commencement of the job.		
45		He/She shall put his/her full signature along with name, Designation/Signature /Mobile number marked in the permit. After the work is completed, the permit needs to be returned at corresponding base location from where it was issued		
46		Before issuing any permit the issuing authority shall give proper briefing of the work situation, including the possible hazards and the precautions to be taken, to the Bidder or receiver of the permit (representative of the bidder). It is the responsibility of bidder to perform advanced job hazard analysis to ensure safe environment for carrying out the work		
47		Permit To Work shall be received and signed by the Engineer In-Charge under whose supervision the work is going to be executed		

48		Bidder shall ensure preparatory, preventive and precautionary measures such as area preparation, blinding/ isolation/ tagging, provision of safety and fire protection equipment, standby personal etc. or special procedures required in the permits and ensure their compliance		
49		Bidder shall ensure that the facilities and the area in and around the place where the permit is issued/renewed are made safe prior to commencement and during the progress of the job		
50		Bidder shall ensure that all safety equipment are in good working condition and available at site prior to commencement of the work. Bidder shall ensure that all personal protective equipment/ clothing are available at site before commencement of work and the same is used by personnel while performing the work		
51		Bidder shall ensure vigil and work diligently for safe completion of the job. Bidder will take extra care when commencing the work, especially while breaking flange joints, cutting through lines, striking an arc for the first time etc.		
52		Bidder will stop the job if conditions become unsafe and report to the issuing/ renewing authority. Bidder is to restart the job only after getting clearance from the issuing/ renewing authority.		
53		Bidder shall ensure that the grade area is barricaded by red & white color tape to cover excavated area or in case of material handling at overhead		
54		Upon completion of the job, the bidder is responsible to clear the area of all construction materials & scrap, removal of temporary electrical isolation and replacement in its original location the facilities/ equipment used for the execution of the job. Bidder is responsible to maintain good housekeeping standards		
55		Hot work permit requires to carry out an activity which may produce enough heat to ignite a flammable air - hydrocarbon mixture or a flammable substance		
56		Height work permit is required if work is carried out at a height above 1.8 meter in any place. If precautions are not taken, a person could fall a distance and is liable to cause personal injury		
57		Excavation permit is required for any job which requires excavation or digging of earth exceeding 1.2 m in depth near process area/in ROU parallel to existing line		

58		Cold work permit is required for carrying out an activity which does not produce sparks or sufficient heat to ignite a flammable substance or which does not normally cause a serious hazard to the life or health of people		
59		All issued permits must be closed on completion of the job and after clearing the area by the authorized person of the executing departments/section		

MAKE AND MODEL

Sr. No.	Name of the Item	Make	Model	Page no. of Physical Bid for Supporting Document
1	CAT6 UTP Outdoor cable			
2	Cat6 UTP LSZH Patch Cord 0.5 mtr			
3	Cat6 UTP LSZH Patch Cord 1 mtr			
4	Cat6 UTP LSZH Patch Cord 3 mtr			
5	CAT6 UTP Information Outlet			
6	faceplate for CAT 6 UTP with back box			
7	CAT 6 UTP 24 port patch panel loaded			
8	PVC Pipe / Conduit			
9	3 Core - 1.5 Sq MM Shielded Copper **FRLS** Power Cable			
10	6 core Armoured Outdoor Fiber cable with HDPE			
11	8 Port Loaded fiber patch panel loaded with pigtails - LC Single mode			
12	12 Port Loaded fiber patch panel loaded with pigtails - LC Single mode			
13	LC-LC duplex fiber optic patch cords 3 Meter - Single mode			
14	Fiber splice closure outdoor			
15	OFC markers			
16	Double walled corrugated pipes (DWC)			
17	Outdoor enclosure (Junction box) with pole clamp			
18	Network rack 15U 600W X 500D			
19	Network rack 42U 800W X 1000D			
20	1 KVA Online UPS			
21	10 KVA Online UPS (N+N redundancy)			
22	Industrial grade L2 managed POE switch			
23	L2 Gigabit Ethernet POE Switch			
24	L3 Network Switch			
25	PTZ camera			
26	Multi sensor 360 degree camera			
27	Bullet outdoor IR camera			

28	Network Joystick			
29	Video management software (VMS) camera license			
30	VMS Software PC / mobile client License			
31	NMS Software			
32	KVM Switch			
33	LED Display			
34	Video Wall			
35	10G SFP Module			
36	1G SFP Module			

Please add additional lines if required.

NOTE:

- ✓ **Bidder has to compulsory quote for single OEM make & model of each & every item. The bid can have multiple OEMs but any quoted product with multiples OEM will be treated as non-compliance & that bid will be liable for rejection for further evaluation.**
- ✓ **Registered in China, Hong Kong & Republic of China (ROC) Original Equipment Manufacturer (OEM) products are not allowed.**

SECTION K – PRE QUALIFICATION CRITERIA:

Sr. No	Eligibility Criteria	Supporting documents (Notary certified true copy / self-attested)
	OEM eligibility criteria	
1	The Bidder shall be Authorized System Integrator / Partner having direct purchase and support agreements with the OEM of IP CCTV Camera, Network switches, Video wall, Rack, UPS, VMS, NMS & display quoted for this tender.	OEM MAF (as per format provided in Annexure I) for products like IP CCTV Camera, Network switches, Video wall, Rack, UPS, VMS, NMS & LED display must be enclosed by the bidder with technical bid.
2	The proposed IP CCTV camera OEM should have following: (i)Direct presence in India more than 5 years as on bid submission date. (ii)Own RMA set up in India for last 3 years. **Note: Registered offices by way of joint ventures, Franchise, agency, distribution partners will not be considered.**	IP CCTV Camera OEM should submit a declaration letter confirming the same along with (i) OEM's incorporation certificate and PAN Card copy. (ii) OEM's Service Tax / GST Registration Number to be given as proof.
	Bidder eligibility criteria	
3	Bidder shall be registered in India under as per companies Act 1956 / Act 2013 as on tender floating date.	Copy of valid registration proof as on date.
4	Bidder's Average Annual Turnover (After deducting Service tax, VAT, GST etc.) from ICT services for the last 3 years ending on 31st March, 2020 shall be at least of **Rs. 7 Crores** on standalone basis.	Audited financial statements for the last three financial years. (I.e. FY 2017-18, FY 2018-19 and FY 2019-20) along with valid CA certificate must be enclosed confirming the average annual turnover from ICT services. For FY 2019-20, Valid CA certified provisional financial statement shall be considered.

5	The bidder must have **positive net worth** on standalone basis in each of the last three financial years as on 31st March, 2020. (Networth = Share capital + Reserves & surplus (excluding any revaluation reserve and share application money pending allocation) – miscellaneous expenses).	Audited financial statements for the last three financial years. (I.e. FY 2017-18, FY 2018-19 and FY 2019-20). For FY 2019-20, Valid CA certified provisional financial statement shall be considered.
6	Bidder should have executed one (1) Work Order of Supply, Installation, Testing, Commissioning and Maintenance of CCTV Surveillance in Govt. / Semi Govt. in India having minimum order value of **Rs. 4.0 Cr** in last 03 years ending on the tender floating date **OR** Two (2) Work Orders of Supply, Installation, Testing, Commissioning and Maintenance of CCTV Surveillance in Govt. / Semi Govt. having minimum order value of **Rs. 2.0 Cr** in each PO in the last 03 years ending on the tender floating date.	Copy/copies of work order/orders & work completion certificate/certificates of the Project/Projects duly certified by client/clients shall be enclosed by bidder.
7	The Bidder should be registered under GST.	Copy of registration should be submitted with the bid.
8	Bidder should have office in Gujarat operational for more than 03 years as on tender floating date.	Copy of any of the following for the last 3 years confirming the time period of more than 3 years as on tender floating date: Property Tax Bill / Electricity Bills / Telephone Bill / Valid Lease Agreement should be submitted with the bid.
9	Bidder and IP CCTV Camera OEM should not have been blacklisted / banned / declared ineligible / declared having dissatisfactory performance by any government / quasi-government authority in India for supply of materials / carrying out operations and maintenance work.	An undertaking by an authorized signatory of the Bidder and IP CCTV Camera OEM needs to be submitted in this regard as per format mentioned in the Annexure VI – sub section 6.2.

10	The authorized signatories of the bidder should execute a Power of Attorney to nominate one person as an authorized signatory regarding all communications and execution of this project. The authorized signatory should sign all communications including the bid.	Original Power of Attorney should be submitted in order to support their authorization to sign the document. The power of attorney should be submitted on a stamping of Rs. 300/- (Rupees Three Hundred Only).
11	Bidder should have to submit affidavit physically on Stamp paper as per format mentioned in Annexure VII.	ORIGINAL on Non-Judicial Stamping of Rs. 300/- duly attested by Magistrate / Notary.

INSTRUCTIONS TO BIDDER:

- ❑ All above mentioned documents for pre-qualification criteria of bid must be notary certified true copy/ self-attested.
- ❑ The Work Order and Work Completion Certificate must be in English language only. In case the Work Order or Work Completion Certificate is in any other language, the bidder has to submit notarized Work Order in English language only.
- ❑ For Pre-qualification criteria of work experience, bidder's any work experience as lead member / consortium member / joint venture / sub-contractor will not be considered as supporting documents.
- ❑ The above mentioned eligibility criteria should be necessarily met, and adequate documentary proof be submitted for verification. If any / partial / all of the above mentioned eligibility criteria don't fulfill by bidder then that bid is disqualified for the technical bid opening.
- ❑ Bidders are requested to submit all the supporting documents required.
- ❑ Physical bid must be submitted by registered AD or speed post or Hand Delivery only. Any other mode is not allowed.
- ❑ Bid must be spiral bound without which the bid will be straight way rejected. In case bid / document size is large then bidder can divide it into the parts. Each part of bid should have proper indexing and page number mentioned and all pages of RFP must be signed and sealed.
- ❑ Tender will be awarded to bidder having lowest Commercial offer. (Least Cost Based Selection (LCBS or L1).

SECTION L – COMMERCIAL BID:

Total Cost of Schedule - A [CCTV Surveillance System - Up to Warranty Period]																
Sr. No:	Particulars				Supply					Installation & Commissioning					TOTAL Amt. Without taxes	TOTAL Amt. With taxes
	Description	UoM	Qty	HSN code / SAC	Unit Rate	AMT.	GST rate %	Tax AMT	Total Amt.	Unit Rate	AMT.	GST rate %	Tax AMT	Total Amt.		
	(A)		(B)		(C)	(D) = (BxC)	(E)	(F)= DxE /100	(G) = (D+F)	(H)	(I) = (BxH)	(J)	(K)= IxJ /100	(L) = (I+K)	(M) = (D+I)	(N) = (G+L)
1	CAT6 UTP Outdoor cable	Mtr	1220													
2	Cat6 UTP LSZH Patch Cord 0.5 mtr	Nos	335													
3	Cat6 UTP LSZH Patch Cord 1 mtr	Nos	10													
4	Cat6 UTP LSZH Patch Cord 3 mtr	Nos	15													
5	CAT6 UTP Information Outlet	Nos	345													
6	faceplate for CAT 6 UTP with back box	Nos	195													
7	CAT 6 UTP 24 port patch panel loaded	Nos	4													
8	PVC Pipe / Conduit	Mtr	500													
9	SITC of 3 Core - 1.5 Sq MM Shileded Copper FRLS Power Cable	Mtr	4000													
10	6 core Armoured Outdoor Fiber cable with HDPE	Mtr	8000													

11	8 Port Loaded fiber patch panel loaded with pigtails - LC Single mode	Nos	162													
12	12 Port Loaded fiber patch panel loaded with pigtails - LC Single mode	Nos	4													
13	LC-LC duplex fiber optic patch cords 3 Meter - Single mode	Nos	345													
14	Fiber splice closure outdoor	NOs	10													
15	OFC markers	Lot	1													
16	Double walled corrugated pipes (DWC)	Mtr	1000													
17	Outdoor enclosure (Junction box) with pole clamp	Nos	162													
18	Network rack 15U 600W X 500D	Nos	3													
19	Network rack 42U 800W X 1000D	Nos	1													
20	1 KVA Online UPS	Nos	162													
21	10 KVA Online UPS (N+N redundancy)	Set	1													
22	Industrial grade L2 managed POE switch	Nos	162													
23	L2 Gigabit Ethernet POE Switch	Nos	4													
24	L3 Network Switch	Nos	1													

25	PTZ camera	Nos	16													
26	Multi sensor 360 degree camera	Nos	3													
27	Bullet outdoor IR camera	Nos	161													
28	Network Joystick	Nos	1													
29	Video management software (VMS) camera license	Nos	200													
30	VMS Software PC / mobile client License	Nos	20													
31	NMS Software	Set	1													
32	KVM Switch	Nos	1													
33	LED Display	Nos	3													
34	Video Wall	Set	1													
35	10G SFP Module	Nos	14													
36	1G SFP Module	Nos	164													
Total of Schedule A in Rs.																

Support Manpower Cost (Schedule B)

Schedule B: Support Manpower Cost								
Sr.	**Item**	**UOM**	**Qty.**	**Unit Rate**	**Total Amount without Taxes**	**GST in %**		**Total Amount with Taxes**
						Rate (%)	**Amount**	
			Q	**A**	**B=A*Q**	**C**	**D= (C*B/100)**	**E=B+D**
1	CCTV expert	Man-month	24					
Total of Schedule B in Rs.								

Schedule C: Summary of All Cost Components				
Sr.	**Description**	**Total cost (Excluding Taxes)**	**Total GST Amount**	**Total Amount with Taxes**
		S1	**S2**	**S=S1+S2**
1	Total Cost of Schedule - A [CCTV Surveillance System - Up to Warranty Period]			
2	Total Cost of Schedule - B [Support Manpower cost]			
Grand Total in Rs.				

Notes:

A. **L1 will be decided on total amount including all type of taxes (Summation of Column S). Above quoted rates are valid for 180 days from the date of Work order**
B. **Quantities are indicative**. The actual quantity of those items may vary & payment will be released accordingly on the pro-rata basis only for actual supply.
C. Bidder needs to quote composite rate i.e. CGST + SGST + CESS or CGST + IGST + CESS as the case may be.
D. GST is required to be quoted separately in the price bid. In case of non-quoting of GST separately in the price bid, the price quoted will be deemed to be inclusive of all taxes and duties. Thus additional claim on account of GST shall not be entertained at any cost.
E. Rate to be quoted should be inclusive of Packing/ Forwarding, transportation, insurance, installation and with applicable warranty.
F. Any changes in Govt. Taxes / Duties would be applicable as on actual at the time of invoice processing.

Total Cost of Schedule - D [CCTV Surveillance System - CAMC Period (optional- will not be considered while calculating L1)]										
Sr. No:	**Description**	**UoM**	**Qty**	**HSN code / SAC**	**Unit Rate in %**	**(M) of Schedule A**	**AMT.**	**GST rate %**	**Tax AMT**	**Total Amt.**
	(A)		**(B)**		**(C)**	**(D)**	**(E) = CxD /100**	**(F)**	**(G)= E x F /100**	**(H) = (E +G)**
1	CAMC Cost of 3rd Year	Year	01		>=4% & <8%					
2	CAMC cost of 4th year	Year	01		>=8% & <=12%					
Total of Schedule D in Rs.										

Support Manpower Cost (Schedule E)

Schedule E: Support Manpower Cost - (optional- will not be considered while calculating L1)								
Sr.	**Item**	**UOM**	**Qty.**	**Unit Rate**	**Total Amount without Taxes**	**GST in %**		**Total Amount with Taxes**
						Rate (%)	**Amount**	
			Q	**A**	**B=A*Q**	**C**	**D= (C*B/100)**	**E=B+D**
1	CCTV expert	Man-month	24					
Total of Schedule E in Rs.								

47. Overview of Evaluation Process

All evaluation will be carried out by GIPL on behalf of CLIENT as detailed below. The decision of GIPL/CLIENT at every stage will be final in this regard.

i) Preliminary Scrutiny

The technical proposals will be opened on the date mentioned in this bid document or issued corrigendum at GIPL's Office in the presence of GIPL, CLIENT & Bidders' representatives. The bid will be considered non - responsive in case of any of the following reasons and will not be eligible for next stage bid opening.

(1) Non submission of tender fees in physical bid
(2) Non submission of EMD in the physical bid
(3) Physical submission of tender fees / EMD with insufficient amount.

In case of any discrepancy, the physical submission of tender fees & EMD will be considered as final.

The qualified bidders will become eligible for pre-qualification criteria evaluation.

ii) Pre-qualification Criteria Scrutiny

The tenders who do not conform to meet any / partial / all the pre-qualification criteria mentioned in tender shall be straight away rejected. All eligible tenders will be considered for further evaluation.

iii) Evaluation of Technical bids

The Technical Bid will be examined on the basis of responsiveness to the technical specifications and the Scope of work and other details as mentioned herein the document. The tenders do not meet any of the technical compliances & other conditions mentioned in the tender shall be straight away rejected.

GIPL/CLIENT may ask bidder for demonstration of offered solution/system and bidder has to bring one set of the each quoted product as per technical specification in tender at the CLIENT's suggested premises. The scheduling of demonstration will be intimated to qualified bidders at least in 48 hours advance by GIPL. The bidder has to minimal (i) explain the proposed solution, (ii) show the technical compliance of each & every proposed product's technical specifications mentioned in the tender document (iii) the demonstration of proposed solution etc. to the committee members formed by CLIENT. During product demonstration, if the bidder failed to (i) comply any of the technical specifications mentioned in tender document for proposed products OR (ii) demonstrate the proposed technical solution OR (iii) to show the successful

demonstration of proposed solution, his bid shall be considered as non-responsive & straight away rejected for further evaluation. All technically qualified bidders will be considered for commercial bid evaluation.

iv) Evaluation of Commercial bids

The commercial bids will be opened on the date informed by GIPL to the technically qualified bidders at GIPL's Office in the presence of GIPL, CLIENT & qualified bidders' representatives. The technically qualified bidder who have lowest Commercial offer (Least Cost Based Selection (LCBS or L1) may be awarded the contract.

v) Final Negotiations & Award of Contract

After completion of the evaluation process, CLIENT/GIPL may enter into negotiations with L1 Bidder. CLIENT reserves the right to award the contract, based on initial offers received or otherwise, without discussion and without conducting any further negotiations. Further, the successful bidder shall not reassign any award made as the result of this bid, without prior written consent from CLIENT.

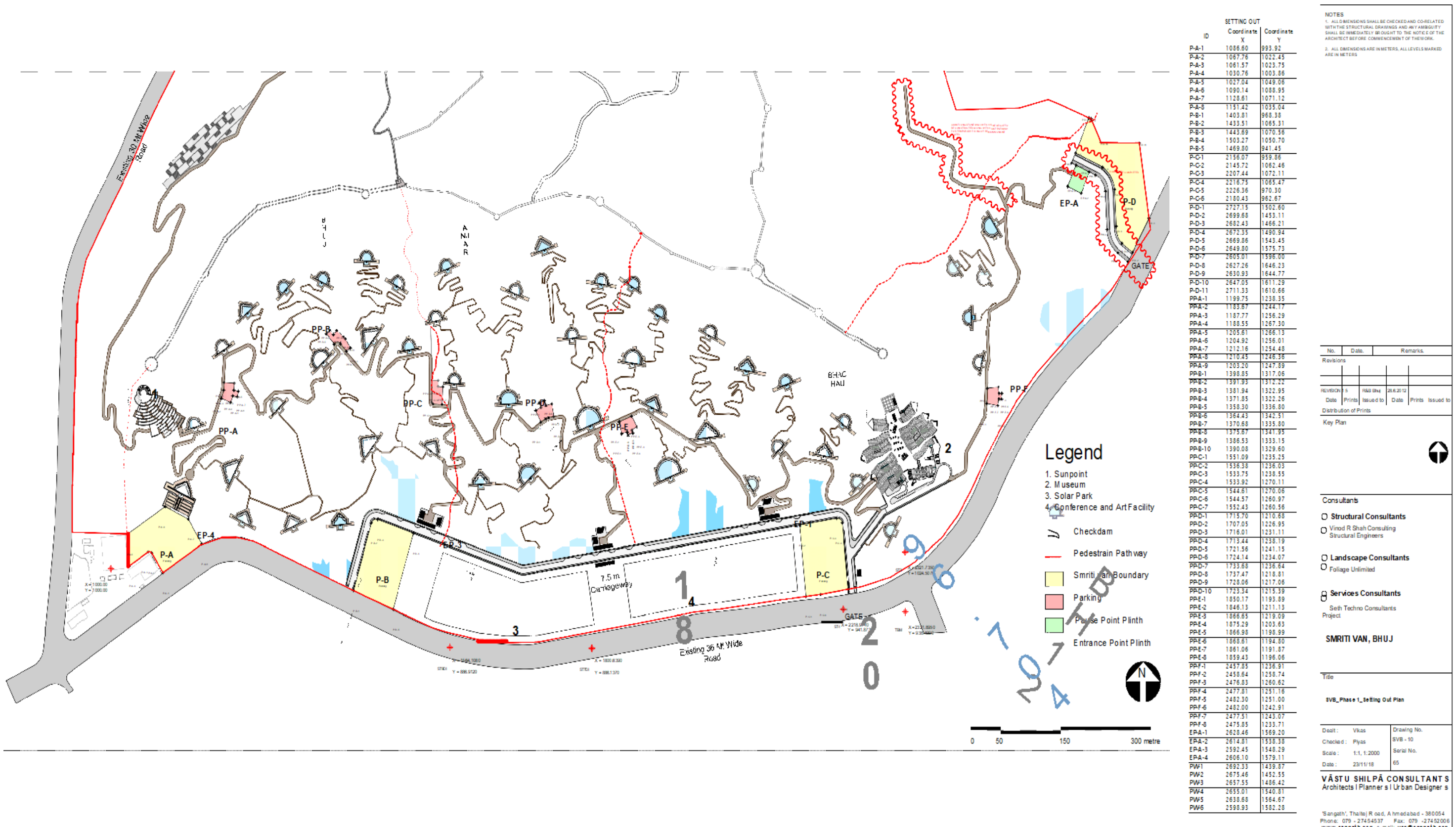
vi) Other evaluation & negotiations conditions: -

1. To facilitate evaluation of bids, GIPL/CLIENT, at its sole discretion, may seek clarification in writing from any bidder regarding the bid.
2. The technical bid shall be first checked for responsiveness with the requirements of the tender including the fulfillment of the eligibility criteria.
3. During the negotiation, the bidder must be prepared to furnish the detailed cost break up and other clarifications to the proposals submitted as may be required to adjust the reasonableness of proposals.
4. The changes agreed upon during the negotiation will then be reflected in the Commercial proposals using proposed unit rates. The successful bidder will not have the right to increase the quoted rate / taxation of any items to adjust the negotiated amount. The bidder should have to distribute the discounted amount equally among the all items.
5. In the event of acceptance of the preferred bidder with or without negotiations, CLIENT shall declare the preferred bidder as the successful bidder and CLIENT will notify the successful bidder through LOI (Letter of Intent) by registered post / email / fax that its bid has been accepted. The Bidder shall acknowledge in writing, the receipt of the Letter of Intent and shall send his acceptance to enter into the Contract within three (03) clear working days from the receipt of the Letter of Intent.
6. In case the successful bidder do not confirm the acceptance of the assignment within the stipulated time, the LOI issued stands cancelled and CLIENT has the right to engage the L2 bidder for the assignment and so on and so forth.

7. Notwithstanding anything contained in this tender, CLIENT reserves the right to accept or reject any proposal or to annul the bidding process or reject all proposals at any time without any liability or any obligation for such rejection or annulment without assigning any reasons thereof.

Annexure A: List of Locations

Smritivan Memorial Project – Bhuj



Annexure I: MANUFACTURER'S AUTHORIZATION FORMAT

(To be executed on Letter Head by OEM of IP CCTV Camera, Network switches, Video wall, Rack, UPS, VMS, NMS & LED display with 2 years' onsite warranty support & Service).

No:- Dated:- XXXX

To,
GUJ INFO PETRO LTD (GIPL),
2ND FLOOR, BLOCK-15,
UDYOG BHAVAN,
Sector - 11, Gandhinagar-382 011.
Gujarat, INDIA

Subject: - Authorization to System Integrator for supply & support.

Tender Name: - **E- TENDER NUMBER: GIPL/GSDMA/CCTV/20-21/07** issued for "Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)."

Dear Sir,

This is with reference to referenced tender & subject. We, OEM, certify that **(Bidder Name)**, having their registered office at **(Bidder Address)** is an authorized partner to bid against your tender enquiry referred above on behalf of us.

As OEM, we assure to provide support & services to **(Bidder Name)** for following quoted products from the date of bid submission by **(Bidder Name)** till the contract completion period. Also, we, as OEM assure that the product quoted (Make: ____ Model: ____) are not **End of Life** and we shall support spares, patches for the quoted products and they would be available for next 2 years from the commission date of Project.

Sr. No:	Product description	Make	Model

Yours faithfully,
(Authorized Signatory)
Name, Signature & Seal of the Bidder
Place: Date

Annexure II: BIDDER INFORMATION SHEET & UNDERTAKING

About the Company

Name of the Company:	
Postal Address (Regd. Office):	
Postal Address (Local Office):	
Constitution, Registration No./Date:	
Income Tax PAN No:	
GST Registration No.:	

About the Authorized Signatory:

Name:		Designation:	
Office Address:		Email:	
Tel./Fax Nos.:		Cell No.:	

Undertaking

On behalf of M/s..... (Name of the Bidder), I, the undersigned, state that all the information stated above as well as in other parts of our bid is true. I hereby undertake and agree to abide by all the terms and conditions stipulated in this RFP including all addendum, corrigendum etc. Any deviation may result in disqualification of bids. I also do hereby affirm and comply with the all the technical specifications of all the products given in the RFP including all addendum, corrigendum etc. while performing the contractual obligations relating to “Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)”. Also, I do affirm and assure that the product proposed by us is complete and total meeting all the functional requirements of project as stated in the Bid Document.

Yours faithfully,
(Authorized Signatory)
Name, Signature & Seal of the Bidder
Place:
Date:

ANNEXURE III: BANK DETAIL OF BIDDER

NAME OF PARTY :

Details of the Bank Account :

(1) Name of the Bank :

(2) Branch & Address of the Bank :

(3) MICR No. :

(4) Type of Bank Account (SB/Current/OD/etc.) :

(5) Bank Account No. :

(6) PAN No. :

(7) IFSC CODE NO. :

Along with cancel cheque copy of above account

(Please fill all information in block letters)

The above information of my bank account is true & correct as per my knowledge.

Authorized signature & seal of Bidder.

ANNEXURE-IV: EARNEST MONEY DEPOSIT (EMD) BANK GUARANTEE FORMAT

(To be stamped in accordance with the Stamp Act)

Ref..... Bank Guarantee No.....

Date.....

To,
GUJ INFO PETRO LTD (GIPL),
2ND FLOOR, BLOCK-15,
UDYOG BHAVAN,
Sector - 11, Gandhinagar-382 011.
Gujarat, INDIA

Dear Sir(s),

In accordance with Letter Inviting Tender under your reference No_____ M/s._____ having their Registered / Head Office at _____ (hereinafter called the Tenderer) wish to participate in the said tender for _____

As an irrevocable Bank Guarantee against Earnest Money for the amount of _____ is required to be submitted by the Tenderer as a condition precedent for participation in the said tender which amount is liable to be forfeited on the happening of any contingencies mentioned in the Tender Document.

We, the _____ Bank at_____

having our Head Office _____

(Local Address) guarantees and undertakes to pay immediately on demand without any recourse to the tenderers by GUJ INFO PETRO LTD. the amount _____ without any reservation, protest, demur and recourse. Any such demand made by GIPL, shall be conclusive and binding on us irrespective of any dispute or difference raised by the Tenderer.

This guarantee shall be irrevocable and shall remain valid up to _____ [this date should be 240 days after the date finally set out for closing of tender]. If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instructions from M/s._____ Whose behalf this guarantee is issued.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this _____day of _____202 __at_____.

WITNESS:

(SIGNATURE)
(NAME)

(SIGNATURE)
(NAME)
Designation with Bank Stamp

(OFFICIAL ADDRESS)

Attorney as per
Power of Attorney No._____

Date: _____

INSTRUCTIONS FOR FURNISHING BID-GUARANTEE

1. The Bank Guarantee by bidders will be given on non-judicial stamp paper as per stamp duty applicable. The non-judicial stamp paper should be in the name of the issuing bank.

2. The expiry date as mentioned in bid document should be arrived at by adding Sixty (60) days to the date of expiry of the bid validity unless otherwise specified in the Bid Documents.

3. A letter from the issuing bank of the requisite Bank Guarantee confirming that said bank guarantee / all future communication relating to the Bank Guarantee shall be forwarded to GIPL.

4. Bidders must indicate the full postal address of the bank along with the bank's E-mail/ Fax from where the earnest money bond has been issued.

ANNEXURE-V: SECURITY DEPOSIT FORMAT

Proforma for Security Deposit—Unconditional

[*on stamp paper of appropriate value]*

[from a scheduled bank]

Date: _____

Loan / Credit No: _____

IFB No: _____

[Name of Contract]

To: ***[Name and address of Purchaser]***

Subject: Bank Guarantee No. [*insert*]

WHEREAS, **[*insert*]** a company incorporated under [*insert*] having its registered office at [*insert*] (hereinafter referred to as the **"Supplier"** which expression shall unless repugnant to the context or meaning thereof include its successors and permitted assigns) have entered into a Contract for **[*insert description of the Project*]**at **[*insert location* State of Gujarat, India]**, dated [*insert*] (hereinafter such agreement, as amended modified or supplemented, referred to as the **"Contract"**) with **[Client Name]** having its registered office at [***insert***] (hereinafter referred to as the **"Purchaser"** which expression shall unless repugnant to the context or meaning thereof include its successors and assigns).

WHEREAS, it has been stipulated under **[Insert Clause no with Tender ID]** that the Supplier is obliged to furnish to Purchaser an irrevocable, unconditional, first demand bank guarantee issued by specified Commercial institutions acceptable to Purchaser, for a sum of Rupees ***[Insert Guarantee amount]*** guaranteeing the validity of Contract Price during the Contract Price Validity Period and for the due performance by the Supplier of the Contract Documents.

AND WHEREAS, **[**insert ***bank name*]** having its registered office at **[*insert*]** and a branch office at **[*insert name of city in India*]** India, hereinafter referred to as the **"Bank"** (which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors), being a schedule bank in India and acceptable to Purchaser, has at the request of the Supplier agreed to issue this security deposit guarantee in favor of Purchaser.

NOW THEREFORE THIS BANK GUARANTEE WITNESSETH AS FOLLOWS:

(1) The Bank hereby undertakes the pecuniary responsibility of the Supplier to Purchaser for the due performance of the Contract and for the payment of any money by the Supplier

to Purchaser and hereby issues in favour of Purchaser this irrevocable and unconditional performance and payment bank guarantee (hereinafter referred to as the **"Guarantee"**) on behalf of the Supplier in the amount of [Insert Guarantee amount](hereinafter referred to as the "**Guarantee Amount**").

(2) The Bank for the purpose hereof unconditionally and irrevocably undertakes to pay to Purchaser without any demur, reservation, cavil, protest or recourse; immediately on receipt of first written demand from Purchaser , any sum or sums (by way of one or more claims) not exceeding in the aggregate the guarantee amount without Purchaser needing to prove or to show to the Bank grounds or reasons for such demand for the sum specified therein and notwithstanding any dispute or difference between Purchaser and the Supplier in respect of the performance of the Contract or moneys payable by Supplier to Purchaser or any matter whatsoever related thereto.

(3) The Bank acknowledges that any such demand by Purchaser of the amounts payable by the Bank to Purchaser shall be final, binding and conclusive evidence in respect of the amounts payable by the Supplier to Purchaser.

(4) The Bank hereby waives the necessity for Purchaser from demanding the aforesaid amount or any part thereof from the Supplier and also waives any right that the Bank may have of first requiring Purchaser to pursue its legal remedies against the Supplier, before presenting any written demand to the Bank for payment under this Guarantee.

(5) The Bank further unconditionally agrees with Purchaser that Purchaser shall be at liberty, without the Bank's consent and without affecting in any manner the Bank's obligation under this Guarantee, from time to time, to:

(i) vary and/or modify any of the terms and conditions of the Contract,

(ii) Extend and/or postpone the time for performance of the obligations of the Supplier under the Contract, or

(iii) Forbear or enforce any of the rights exercisable by Purchaser against the Supplier under the terms and conditions of the Contract

and the Bank shall not be relieved from its liability by reason of any such act or omission on the part of Purchaser or any indulgence by Purchaser to the Supplier or other thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of relieving the Bank of its obligations under this Guarantee.

(6) The Bank's obligations under this Guarantee shall not be reduced by reason of any partial performance of the Contract. The Bank's obligations shall not be reduced by any failure by Purchaser to timely pay or perform any of its obligations under the Contract.

(7) Any payment made hereunder shall be made free and clear of and without deduction for, or on account of, any present or future taxes, levies, imposts, duties, charges, fees,

commissions, deductions or withholdings of any nature whatsoever and by whomever imposed; and where any withholding on a payment is required by law, the Bank shall comply with such withholding obligations and shall pay such additional amount in respect of such payment such that Purchaser receives the full amount due hereunder as if no such withholding had occurred.

(8) This Guarantee shall be a continuing bank guarantee and shall not be discharged by the change in constitution of any member of the Supplier and the Guarantee shall not be affected or discharged by the liquidation, winding up, bankruptcy, reorganization, dissolution or insolvency of any member of the Supplier or any other circumstances whatsoever.

(9) This Guarantee shall be in addition to and not in substitution or in derogation of any other security held by Purchaser to secure the performance of the obligations of the Supplier under the Contract.

(10) The Bank agrees that Purchaser at its option shall be entitled to enforce this Guarantee against the surety, as a principal debtor in the first instance without proceeding at the first instance against the Supplier.

(11) Without prejudice to any continuing liability to perform obligations under this Guarantee which have arisen prior thereto, the Bank shall be released from any further obligations arising hereunder after [*insert*] (insert the date.).

(12) Purchaser may assign this Guarantee to any person and in such case Purchaser shall inform the Bank in writing. This Guarantee shall not be assigned or transferred by the Bank.

(13) This Guarantee shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at [Gandhinagar] shall have jurisdiction over all matters arising out of or relating to this Guarantee.

(14) The Bank has the power to issue this Guarantee in favor of Purchaser. The aggregate liability of the Bank under this Guarantee shall not under any circumstance exceed Indian Rupees [*insert*] (insert an amount).

(15) Notwithstanding anything contained herein, this Guarantee shall be valid up to the expiry of the Warranty Period (including any extensions thereof, written notice of which shall be provided to the Bank). A written claim or demand shall be served upon us on or before the said date, after which this Guarantee shall become null and void.

(16) No action, event or condition which by any Applicable Law should operate to discharge the Bank from liability hereunder shall have any effect and the Bank hereby waives any right it may have to apply such law, so that in all respects its liability hereunder shall be irrevocable and, except as stated herein, unconditional in all respects.

(17) Capitalized terms not otherwise defined herein shall have their respective meanings given such terms set forth in the Contract.

IN WITNESS WHEREOF the Bank, through its authorized officer, has set its hand and stamp on this [*insert*] day of [*insert*] 202_

(Signature)

[*insert name of signatory*]
[*insert designation of signatory*]

(Duly authorized representative)
Vide power of attorney No. [*insert*]

Dated [*insert*]

Witness

[*insert*]

[*insert*]

ANNEXURE VI: INSTRUCTIONS FOR BIDDERS FOR TECHNICAL BID

6.1 Bid Covering Letter

Date: <DD/MM/YYYY>

To
Chief Executive Officer
Guj Info Petro Limited
Block No: 15, 2nd Floor, Udyog Bhavan,
Sector -11, Gandhinagar – 382 011, Gujarat.

Subject: Technical proposal submission.

Ref: E- Tender No: **GIPL/GSDMA/CCTV/20-21/07** dated <DD/MM/YYYY>

Dear Sir,

Having examined the RFP, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to provide the materials & professional services as required and outlined in the RFP for "Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)."

We attach hereto our responses to pre-qualification requirements and technical proposals as required by the RFP. We confirm that the information contained in these responses or any part thereof, including the exhibits, and other documents and instruments delivered or to be delivered to GIPL/CLIENT is true, accurate, verifiable and complete. This response includes all information necessary to ensure that the statements therein do not in whole or in part mislead the department in its short-listing process.

We fully understand and agree to comply that on verification, if any of the information provided here is found to be misleading the selection process, we are liable to be dismissed from the selection process or termination of the contract during the project, if selected to do so.

We agree for unconditional acceptance of all the terms and conditions set out in the RFP document and also agree to abide by this tender response for a period of 180 days from the date fixed for bid submission. We hereby declare that in case the contract is awarded to us, we shall submit the contract performance guarantee bond in the form prescribed the RFP.

We agree that you are not bound to accept any tender response you may receive. We also agree that you reserve the right in absolute sense to reject all or any of the products/ services specified in the tender response.

It is hereby confirmed that I/We are entitled to act on behalf of our company/ corporation/ firm/ organization and empowered to sign this document as well as such other documents, which may be required in this connection.

_____

Signature of Authorized Signatory (with official seal)

Name	:
Designation	:
Company	:
Address	:
Telephone & Fax	:
E-mail Address	:

6.2 FORMAT FOR SELF DECLARATION – NO BLACKLISTING CERTIFICATE

No: Date: <DD/MM/YYYY>

To
Chief Executive Officer
Guj Info Petro Limited
Block No: 15, 2nd Floor, Udyog Bhavan,
Sector -11, Gandhinagar – 382 011, Gujarat.

Ref: E- Tender No: **GIPL/GSDMA/CCTV/20-21/07** dated <DD/MM/YYYY>

Dear Sir,

In response to the referenced tender for "Supply, Installation, Testing, Commissioning and maintenance of CCTV surveillance system at SMRITIVAN, MEMORIAL PROJECT, BHUJ for Gujarat State Disaster Management Authority (GSDMA)" as an owner/partner/director of _____ _____, I/ We hereby declare that presently our company/firm _____ is having unblemished record and is not declared ineligible for corrupt and fraudulent practices either indefinitely or for a particular period of time by any State/Central Government/PSU in India.

We further declare that presently our company / firm _____ is not blacklisted and not declared ineligible for reasons of corrupt and fraudulent practices by any State/Central Government/ PSU in India on the date of Bid submission.

We further declare that presently our company / firm _____ is not blacklisted by any State/Central Government/ PSU in India for supply, installation, testing, commissioning & maintenance of materials / services mentioned in this tender document & carrying out operations and maintenance work of said materials / services as on the date of Bid submission.

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 tender if any to the extent accepted may be cancelled.

Yours Sincerely,
Name of the Bidder:
Authorized Signatory:
Seal of the Organization:
Date:
Place:

ANNEXURE VII: Format of Affidavit [To be submitted physically on Stamp paper]

(To be submitted IN ORIGINAL on Non-Judicial Stamping of Rs 300/- duly attested by Magistrate / Notary)

I/We, _____, age_____ years residing at_____ in capacity of _____ M/s. _____ hereby solemnly affirm that

1. All General Instructions, General Terms and Conditions, as well as Special Terms & Conditions laid down on all the pages of the Tender Form, have been read carefully and understood properly by me which are completely acceptable to me and I agree to abide by the same.
2. I / We have submitted following Certificates / Documents for Pre-Qualification Criteria, Technical Evaluation as required as per General Terms & Conditions as well as Special Terms & Conditions of the tender

Sr. No.	Name of the Document
1	
2	

3. All the Certificates / Permissions / Documents / Permits / Affidavits are valid and current as on date and have not been withdrawn / cancelled by the issuing authority.
4. It is clearly and distinctly understood by me that the tender is liable to be rejected if on scrutiny at any time, any of the required Certificates / Permissions / Documents / Permits / Affidavits is / are found to be invalid / wrong / incorrect / misleading / fabricated / expired or having any defect.
5. I / We further undertake to produce on demand the original Certificate / Permission / Documents / Permits for verification at any stage during the processing of the tender as well as at any time asked to produce.
6. I / We also understand that failure to produce the documents in "Prescribed Performa" (wherever applicable) as well as failure to give requisite information in the prescribed Performa may result in to rejection of the tender.
7. I / We confirm that I / We have meticulously filled in, checked and verified the enclosed documents / certificates / permissions / permits / affidavits / information etc. from every aspect and the same are enclosed in order (i.e. in chronology) in which they are supposed to be enclosed. Page numbers are given on each submitted document. Important information in each document is "highlighted" with the help of "marker pen" as required.

8. The above certificates / documents are enclosed separately and not on the Performa printed from tender document.
9. I / We say and submit that the Permanent Account Number (PAN) given by the Income Tax Department is_____, which is issued on the name of_____ .
10. I / We understand that giving wrong information on oath amounts to forgery and perjury, and I/We am/are aware of the consequences thereof, In case any information provided by us are found to be false or incorrect, you have right to reject our bid at any stage including forfeiture of our EMD / SD / Cancel the award of contract. In this event, this office reserves the right to take legal action on me/us.
11. I / We have physically signed & stamped all the above documents along with copy of tender documents (page no. _____ to ____).
12. I / We hereby confirm that all our quoted items meet or exceed the requirement and are absolutely compliment with specification mentioned in the bid document.
13. My / Our Company has not filed any Writ Petition, Court matter and there is no court matter filed by State Government and its Board Corporation, is pending against our company .
14. I / We hereby commit that we have paid all outstanding amounts of dues / taxes / cess / charges /fees with interest and penalty.
15. In case of breach of any tender terms and conditions or deviation from bid specification other than already specified as mentioned above, the decision of Tender Committee for disqualification will be accepted by us

Whatever stated above is true and correct to the best of my knowledge and belief.

Date: **Stamp & Sign of the signatory authority of bidder**

Place: