ODISHA POWER TRANSMISSION CORPORATION LIMITED
(A Govt. of ODISHA Undertaking)
Registered Office: Janpath, Bhubaneswar – 751022
CIN: U40102OR2004SGC007553

TENDER NOTICE No.TW-IT/OT/06/2015-16

Chief General Manager (IT), OPTCL, 3rdFloor, OPTCL TOWER, Janpath, Bhubaneswar on behalf of OPTCL invites bids in e-tender mode only from reputed eligible bidders for CCTV Implementation conforming to the terms and conditions mentioned as follows:

The interested eligible bidders may visit our website www.optcl.co.in on or after 06-10-2015 to go through / download the scope of supply and terms and conditions in detail. The techno-commercial bid shall be due for submission on dated 30-10-2015 13:30 Hrs.

The interested bidders would be required to enroll themselves on the tender portal **www.tenderwizard.com/OPTCL** .Complete set of bidding documents are available at **www.tenderwizard.com/OPTCL** from 06-10-2015 (11:00 Hrs) up to 30.10.2015 (13:30 Hrs).

Interested contractors may visit OPTCL's official web site **http://www.optcl.co.in** and **www.tenderwizard.com/OPTCL** for detail specification.

N.B:- All subsequent addendums/corrigendum to the tender shall be hosted in the OPTCL's official web site http://www.optcl.co.in and www.tenderwizard.com/OPTCL only.

Chief General Manager (IT)

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A. SECTION-I

1. General information to the Bidders

I. Name of the Project: Procurement, Installation, Testing, Implementation of IP Based CCTV Surveillance System in OPTCL grids (Chandaka, Meramundali, Budhipadar, Jayanagar)

II. The prospective bidders are advised to register their user ID, Password, company ID from website www.tenderwizard.com/OPTCL by clicking on hyper link "Register Me".

2. Submission of Bids

I. The bidder shall submit the bid in Electronic Mode only i.e. **www.tenderwizard.com/OPTCL**. The bidder must ensure that the bids are received in the specified website of the OPTCL by the date and time indicated in the Tender notice.

II. Bids submitted by telex/telegram will not be accepted. No request to collect the Bids in physical form will be entertained by the OPTCL.

III. The OPTCL reserves the right to reject any bid, which is not submitted according to the instruction, stipulated.

IV. The participants to the tender should be registered under IT Act, Service tax Act

V. The Bidder must possess Compatible Digital Signature Certificate (DSC) of Class-II or Class-III.

VI. Contractors / Vendors / Bidders are requested to follow the below steps for registration

(a) Click "Register", fill the online registration form.

(b) Pay the amount of Rs. 2280/-(Two thousand two hundred and eighty) through DD in favour of KSEDC Ltd. Payable at Bangalore. This registration is valid for one year.

(c) Send the acknowledgment copy for verification.

(d) As soon as the verification is done the e-tender User ID will be enabled.

VII. After viewing Tender Notification, if bidder intends to participate in tender, he has to use his e-tendering User Id and Password which has been received after registration and acquisition of DSCs.

VIII. If any Bidder wants to participate in the tender he/ she will have to follow the instructions given below:

(a) Insert the PKI (which consist of your Digital Signature Certificate) in your System (Note: Make sure that necessary software of PKI be installed in your system)

(b) Click / Double Click to open the Microsoft Internet Explorer (This icon will be located on the Desktop of the computer).

(c) Go to Start > Programs > Internet Explorer.

(d) Type www.tenderwizard.com/OPTCL in the address bar, to access the Login Screen.

(e) Enter e-tender User Id and Password, click on "Go".

(f) Click on "Click here to login" for selecting the Digital Signature Certificate.

(g) Select the Certificate and enter DSC Password

(h) Re-enter the e-Procurement User Id Password

IX. To make a request for Tender Document, Bidders will have to follow below mentioned steps:

(a) Click “Un Applied” to view / apply for new tenders.
(b) Click on Request icon for online request
(c) Enter the required fields including details of DD for tender Processing fee

X. After making the request Bidders will receive the Bid Documents which can be checked and downloaded by following the below steps:

(a) Click to view the tender documents which are received by the user
(b) Tender document screen appears
(c) Click “Click here to download” to download the documents

XI. After completing all the formalities Bidders will have to submit the tender and they must take care of following instructions:

(a) Prior to submission, verify whether all the required documents have been attached and uploaded to the particular tender or not
(b) Note down / take a print of bid control number once it is displayed on the screen

XII. Competitors bid sheets will be available in the website

XIII. For any e-tendering assistance, contact help desk number - **080-40482000 (Bangalore)**

3. Bidding Schedule

SL NO	THE BIDDING SCHEDULE		
1	Type of Bidding	Two- part bidding	
2	Tender Documents	The bidders can view the tender documents from Website "www.optcl.co.in" free of cost	
3	Tender Cost	10,500/-(non-refundable) including VAT@5%	
4	Mode of paying Tender cost	Demand Draft payable to Drawing and Disbursing officer, Headquarters office, OPTCL, Bhubaneswar. The DD must be issued by a nationalized bank on or before the last date for sale of bidding documents, as per clause (j) below	
5	Tender Processing Fee	The bidders shall have to submit a non-refundable tender processing fee of Rs	

		5700/- in the form of Demand Draft, drawn in favour of K.S.E.D.C. Ltd., Payable at Bangalore	
6	EMD*	All bids must be accompanied by a bid security (EMD) in the amount of 2,08,000/-(Two Lakhs Eight Thousand Only)	
7	Mode of EMD	The bid Security may be submitted in one of the following forms	Bank Guarantee or irrevocable letter of credit issued directly by a nationalized/ sch. commercial bank, in the form provided in the bidding documents
			Crossed bank draft/pay order/bank certified cheque drawn in favour of the Drawing and Disbursing Officer, OPTCL, Headquarters, Bhubaneswar
8	Submitted EMD, Tender Cost, Tender Processing Fee	The bidders shall scan the Demand Draft/Pay order Towards EMD, tender paper Cost and tender processing fee and upload the scanned image in the prescribed form in .gif or .jpg format in addition to submitted original	
		The said demand drafts are to be submitted in original at the office of the undersigned on or before the last date & time of submission of tender	
9	Date of commencement of Sale of bidding document	06-10-2015 (11:00 Hrs)	
10	Last date of sale of bidding document	30-10-2015 (11:30 Hrs)	
11	Last date and time for Receipt of bids	30-10-2015 (13:30 Hrs)	

12	Date of Pre-Bid meeting	15-10-2015 (11:00 Hrs)	
13	Time and date of opening of Techno-commercial bids	31-10-2015 (13:00 Hrs)	
14	Time and of opening price bids	Will be Intimated Later	
15	Place of opening of bids	Office of Chief General Manager (IT), 3rd Floor, OPTCL Tower, OPTCL, Janpath, Bhubaneswar-751022	
16	Address for communication	Chief General Manager (IT), 3rd Floor, OPTCL Tower, OPTCL, Janpath, Bhubaneswar-751022	

**Tender papers shall be free of cost, 50% exemption on payment of EMD will be allowed to the local MSEs registered with respective DICs, Khadi village, cottage industries, OSIC and NSIC. Registration / Scope of business of MSE should cover the items to be procured in this tender.

4. Description and Schedule of Quantity (Scope of work)

I. Supplies:

(a) **Hardware**

Sl No	BOM Items	Quantity					Unit
		Chandaka	Jayanagar	Budhipadar	Meramundali	Total	
A)	**CCTV EQUIPMENTS**						
1	Outdoor PTZ Camera	4	4	10	11	29	Nos.
2	Outdoor Fixed Camera	5	5	1	1	12	Nos.
3	Indoor Dome camera	2	2	2	3	9	Nos.
4	Outdoor Housing for Cameras	9	9	11	12	41	Nos.
5	Surge Protector	9	9	11	12	41	Nos.
6	Outdoor Junction Box	9	9	11	12	41	Nos.
B)	**NETWORKING EQUIPMENTS**						
1	Rack Server with monitor	1	1	1	1	4	Nos.

2	Desktop PC with pre-loaded latest OS	1	1	1	1	4	Nos.
3	24 port L3 Managed switch	1	1	1	1	4	Nos.
5	Media Converter(SC/ LC fiber)	18	18	22	24	82	Nos.
6	24U, 19inches, floor standing rack	1	1	1	1	4	Nos.
7	0.6 KV interactive UPS with batteries	9	9	11	12	41	Nos.
8	5 KVA Online UPS with batteries	1	1	1	1	4	Nos.
9	NAS Server for video storage(16 TB)	1	1	1	1	4	Nos.
C)	**Cables & Accessories**						
1	OFC Cable (Single mode, multi core)	2	2	3	5	12	Kms approx
2	CAT 6 cable (	100	100	100	150	450	Mtrs. Approx.
3	Patch Cord (7/ 10 ft.)	100	100	100	150	450	Mtrs. Approx.
4	6 Port Patch Panel	11	11	13	15	50	Nos.
5	24 Port Patch Panel	1	1	1	1	4	Nos.
6	6 Port LIU with couplers	11	11	13	15	50	Nos.
7	24 Port LIU with couplers	1	1	1	1	4	Nos.
8	Other necessary items like casing & capping for OFC, UTP CAT6 cables etc.	1	1	1	1	4	Lumpsum

9	Electrical Cabling	1	1	1	1	4	Sets
10	Other necessary items like casing & capping for electrical cabling	1	1	1	1	4	Lumpsum
11	Pole (PTZ Mounting)	4	4	0	0	8	Nos.

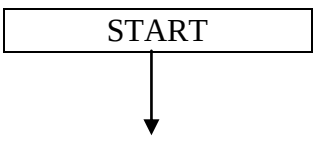
(b) **Software**

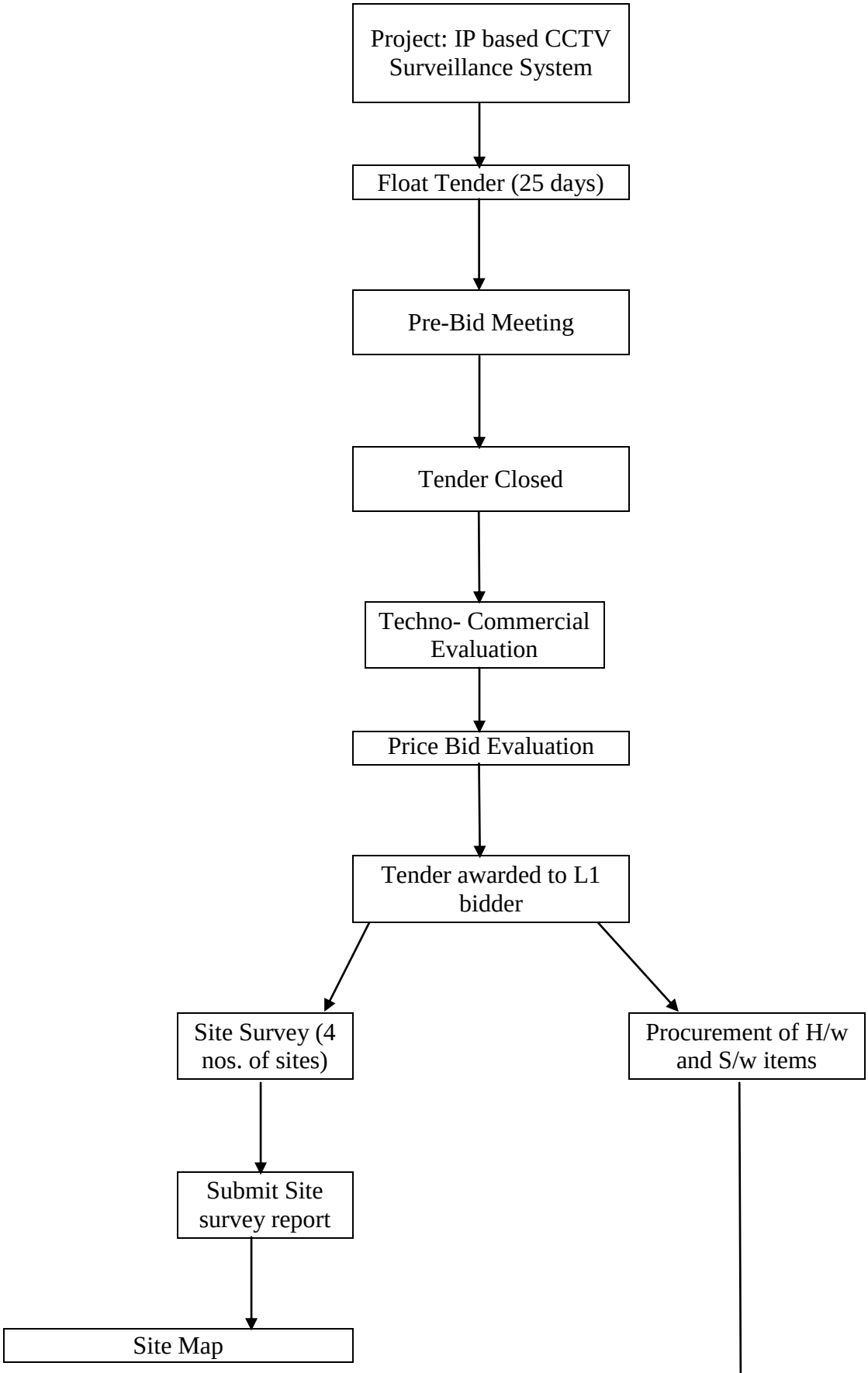
Sl No	Software	Quantity	Total
1	Microsoft windows 2012 standard Edition, CAL (paper licence)	1 no. With 4 nos. Of users	01
2	Antivirus for server & desktop	1 no. With 8 nos. Of users	01
3	VMS for surveillance system	1 no. With 4 nos. Of users	01
4	Analytics software	1 no. With 4 nos. Of users	01

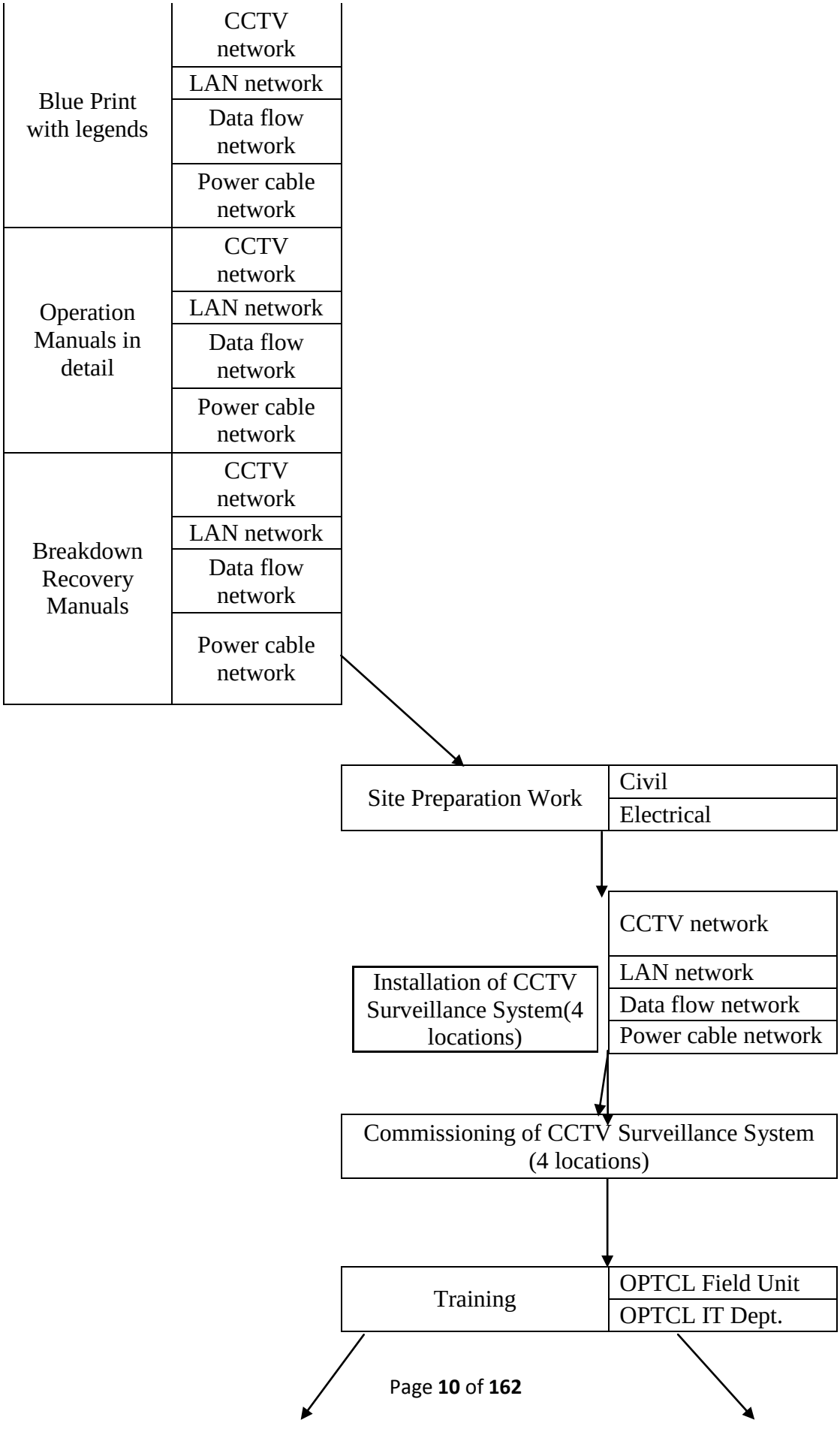
System integration of all the hardware, software, networking items supplied by the successful bidder as part of this project shall be the sole responsibility of the successful bidder. Any additional goods and services required for the completion of the system integration in order to materialise and operationalize all the functional specifications of this project shall be borne by the successful bidder at no extra cost to the Purchaser.

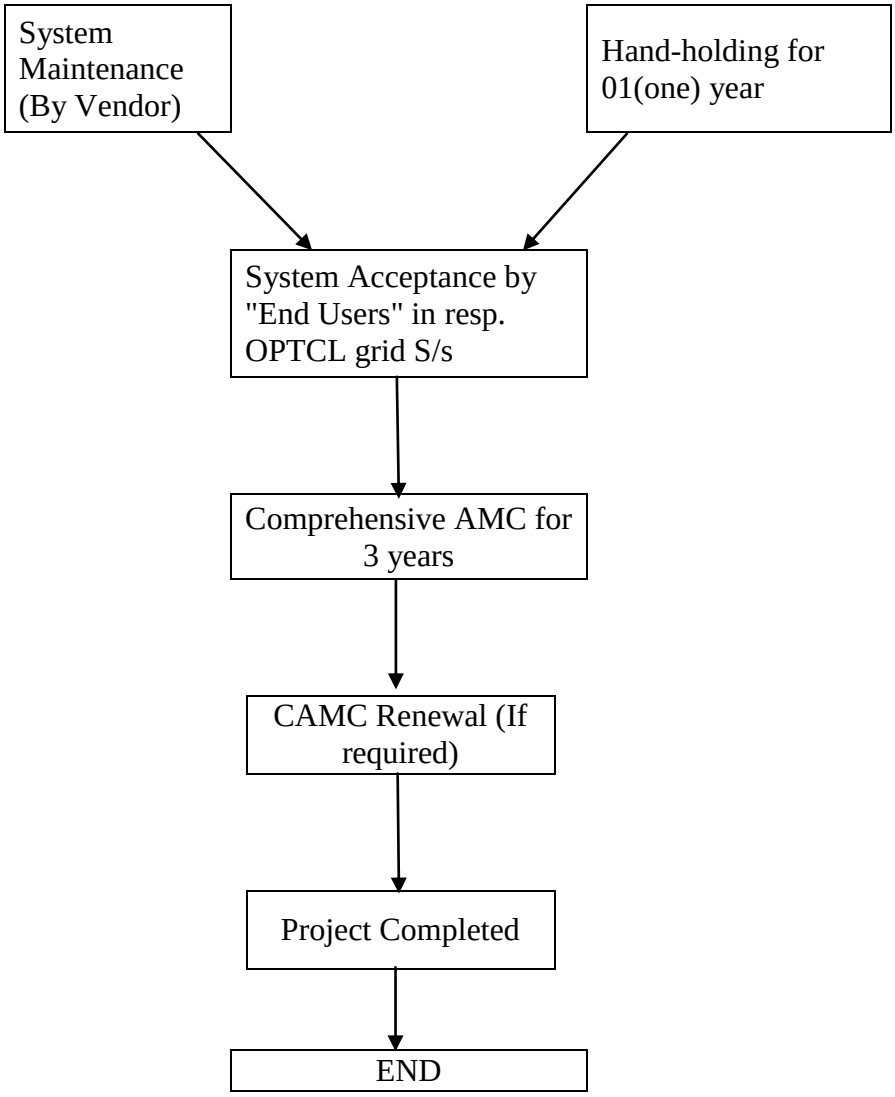
II. Work Deliverables

(a) **Work Breakdown Structure (WBS)**




Project: IP based CCTV Surveillance System
Float Tender (25 days)
Pre-Bid Meeting
Tender Closed
Techno- Commercial Evaluation
Price Bid Evaluation
Tender awarded to L1 bidder
Site Survey (4 nos. of sites)
Procurement of H/w and S/w items
Submit Site survey report
Site Map


Blue Print with legends
CCTV network
LAN network
Data flow network
Power cable network
Operation Manuals in detail
CCTV network
LAN network
Data flow network
Power cable network
Breakdown Recovery Manuals
CCTV network
LAN network
Data flow network
Power cable network
Site Preparation Work
Civil
Electrical
Installation of CCTV Surveillance System(4 locations)
CCTV network
LAN network
Data flow network
Power cable network
Commissioning of CCTV Surveillance System (4 locations)
Training
OPTCL Field Unit
OPTCL IT Dept.



(b) **Responsibility Matrix**

RACI CHART					
Sl No	**GENERAL ACTIVITY**	**GRID S/s**	**OPTCL - Project Team**	**CONSULTANT - CGM(IT)**	**VENDOR/ SI**
1	Publishing of Tender & Bid Management	I	R	R/ C	I

2	Bid Evaluation	NA	R	C/ A	NA
3	Signing of the Contract	I	I	R/ A	R
4	Preparation of the Site Survey Report (4 sites)	C	C	C/ A	R
5	Finalise the list of Locations for Edge Devises in consultation with CGM(IT) & Prepare the detailed plan for Camera Connectivity with Command Centres	C	R	R/ A	NA
6	Prepare SRS documentation for the Video Surveillance Solution & the Video Analytics Solution, Finalize Reporting Formats/Base Rule	C	C	C/ A	R
7	Validate the Technical Design and Review SRS documentation	C/ I	C	R/ C/ A	R
8	Submission of the Partial Acceptance Testing & Final Acceptance Testing Formats	C	R	C/ A	R
9	Supply, Installation, Configuration and Commissioning of various equipment, components, systems	C	C	C/ A	R
10	Supply, Installation of other facilities such as Interiors, Electrical, UPS etc.	C	C	C/ A	R
11	Provisioning of Connectivity between Cameras, Control Centre, Viewing Centres	C	C	C/ A	R
12	Preparing and implementing the Surveillance system information security policy, including policies on backup	I	C	C/ A	R

13	Preparation of the Policy Documents for Use & Operations of Surveillance System for the OPTCL grid locations CCTV System	C	C	C/ A	R
14	Guideline document/ manual to standardize file formats, compression types, interface, to be used by various agencies concerned with video/ photograph recording & storage.	I	C	C/ A	R
15	Guidelines for video data handling for submission of the video data to judiciary as legal evidence	I	C	C/ A	R
16	Preparation of the Guideline Documents for allowing CCTV Feed of OPTCL to Police CCTV System	I	C	C/ A	R
17	Training and Capacity Building for the OPTCL Grid S/s for Operation of the system	R	C	C/ A	R
18	Partial Acceptance Testing & Final Acceptance Testing of IT & Non-IT equipment in the CCTV system	R	C	C/ A	R
19	System Documents, User Documents as per ITIL (Information Technology Infrastructure Library) standards	I/ A	C	C/ A	R
20	Review and Validation of the Documentation submitted by System Integrator	I	R	R/ A	C

21	Providing technically qualified manpower for maintenance of the entire system	C/I	C	R/ A	R
22	On-Site Facilities Management services	I	C	C/ A	R
23	Comprehensive Warranty Maintenance of the supplied equipment	I	I	C/ A	R
24	Provision of on-site spares	C/ I	I	R/ C/ A	R
25	Hand-over of the system at the end of contractual period along with all documentation required to operate and maintain the system	R/ A	I	R/ A	R
26	Weekly Progress Reports	R/ A	C	A	R
27	Monthly Progress Reports	R/ A	C	A	R
28	Penalty for breach of SLA	C	C	R/ A	R

(c) **Key Deliverables**

Sl No	Activities/ deliverables	Submission Date	Amount
1	Submission & Acceptance of final complete site survey report (4 sites)	W+10days	60% of Total Project Cost
2	Procurement & Delivery of CCTV hardware & software (4 sites)	W+30 days	
3	Successful onsite inspection (4 sites)	W+45 days	20% of Total Project Cost
4	Successful completion of site preparation work (Civil + Electrical) (4 sites)	W+50 days	
5	Successful installation of CCTV Surveillance System (4 sites)	W+70 days	
6	Successful commissioning of CCTV Surveillance System (4 sites)	W+70 days	
7	Successful Pilot testing (positive & negative) (4 sites)	W+80 days	

8	Successful system roll-out (4 sites)	W+80 days	
9	Successful training given to OPTCL officers (field officer + IT officer) (4 sites)	W+85 days	
10	Submission of all operational manuals duly checked and accepted as given in WBS (4 sites)	W+90 days	
11	Successful system maintenance & Hand-holding for 2 years	Successful roll-out + 365 days	10% of Total Project Cost
12	System acceptance by "End Users" (4 sites)	Successful roll-out + 365 days	

(d) **Service Components**

Sl. No	Description	Unit of Measurement	Quantity
1	Warranty period for all CCTV, networking equipment and software element should be 3 years	Lump sum	Lump sum
2	AMC Charges for 3 years after the warranty period for CCTV, networking, equipment and software element	Lump sum	Lump sum

Note: The end of life of all the CCTV Equipment and IT items quoted by the bidder should be a minimum of Six (6) years from the bid submission date.

Scope of work: Scope of work comprises supply, installation, commissioning and integrating all components of the IP based CCTV surveillance and monitoring system including video management, analytic and other software product etc. along with other accessories that meet the full functionality and provide the maintenance services during the warranty and CAMC (Comprehensive AMC) period of the systems.

5. Opening of Bids

I. Bids will be opened in the presence of Bidders or Bidders' representatives who choose to attend at the specified date and time. Bidders' representatives should submit authorisation letter from the Bidder to OPTCL to attend opening of Bids.

II. **Part–I** (**OPTCL-IP Based CCTV Surveillance System Techno-Commercial Bid**) shall be opened on the stipulated date and time mentioned under clause 2(l) of Section-I. After technical evaluation,

the **Part-II (OPTCL-IP Based CCTV Surveillance System Price-Bid)** of successful/eligible bidders shall be opened on a later date to be decided by the purchaser.

III. The bidders shall be intimated of the price bid opening date through OPTCL's web site in case of any change in the date of opening of the price bid.

IV. In the event of the date specified for bid receipt and opening being declared as a closed holiday for purchaser's office, the due date for submission of bids will be the following working day and the due date for opening of bids will be the next day after the last date of submission of bid.

V. OPTCL reserves the right to cancel/withdraw the invitation for bids without assigning any reasons and shall bear no liability whatsoever consequent upon such a decision.

6. Qualification of Bidder

I. The bidder must be an Authorized Systems Integrator (ASI) having a direct purchase and support agreement with the OEMs of the IP Based CCTV Surveillance System equipment. The bidder should provide Manufacturer's Authorization Letter for all IP Based CCTV Surveillance System equipment quoted (except the items for which the bidder itself is the OEM) along with the bid. The ASI should also submit declaration, as a mandatory requirement, by OEMs that the quoted H/W items shall not be outdated within 6(six) years of supply and that OEM renders necessary spares support to ASI.

II. Bidder shall be financially sound and must not be anticipating any ownership change for coming 03 (three) years from bid submission date. An undertaking to this effect shall be submitted by the Bidder duly certified by authorized CA.

III. The annual average turnover of the bidder shall be minimum **Rs. 8 Crores (Eight Crores)** for the financial years 2012-13, 2013-14 and 2014-15. Please submit scanned auditor certified copies.

IV. The bidder shall give an undertaking as a part of this contract to provide technical consultancy and guidance at no extra cost to OPTCL for proper configuration and performance and integration. The Bidder shall submit an undertaking to this effect.

V. In addition to the above the Bidder shall submit the following:

(a) The Bidder must be a certified "Systems Integrator" with certifications of an ISO 14001, 9001 etc. Bidder has to submit photocopy of the original certificate along with their bid

(b) The bidder must have successfully executed at least three numbers of similar projects of value more than Rs.2.5crores (Two Crores 50 lakhs only) during last three years. At least one such project should have been executed for any Govt. office /

PSU / autonomous Govt. body. Customer certified credentials shall be submitted

(c) The bidder must have full-fledged service centre at Bhubaneswar equipped with spare stock and certified manpower (self-certificate).

(d) The tenders should be kept valid for a period of 180 (One hundred and eighty) days from the date of opening of the tender as notified in the tender notice failing which the tenders will be rejected, Price validity declaration by the Vendor shall be submitted.

(e) The schedule of prices should be filled up fully carefully to indicate the break-up of prices including taxes and duties. (SECTION-V.Schedule – C. (b)).

VI. Tenderer must have submitted the tender paper cost as per the instruction under SECTION-I.(3).

VII. Tenders shall not be submitted telegraphically or by Fax.

VIII. Tenders shall be accompanied by the prescribed Earnest Money Deposit (EMD)

IX. Tenders shall be submitted in two parts only.

X. Delivery & Installation Schedule must be agreed upon

XI. Procedure to Submit the Bid:

(a) Tenders shall be in two Parts: The Tenderers are required to submit the tenders in two parts viz. Tenders shall be submitted in electronic mode only through **(www.tenderwizard.com/ OPTCL).**

i. Part-I (Techno commercial)

ii. Part-II (Price bid).

(b) All the supporting documents as below are to be signed and scanned, then uploaded in the **tenderwizard.com**.

Sl No	Document / Description
1	Bid Declaration Form
2	Earnest Money Deposit (EMD) Bank Guarantee 240 days from bid opening date/ Irrevocable letter of credit / crossed bank draft / pay order / Bank certified cheque as the case may be towards EMD.
3	Authentic copy of registration Certificate as MSE unit if any, for claiming 50% EMD exemption
4	Manufacturer's Authorisation Certificate (MAC) from OEM/ Principal to execute the contract or submit the bid.
5	OEM's declaration that the equipment shall not be out dated for six (6) years and for necessary spare support to ASI.

6	Copies of certified auditor statement on Annual Turnover for last 3 years 2012-13, 2013-14, 2014-15.
7	Manufacture ship / Authorized "System integrator" certificate.
8	An undertaking that there will be no ownership change in the forthcoming three years from bid submission date.
9	(a)Constitution or legal status, place of registration and principal place of business; (b) Copy of the Power of Attorney of the signatory if any of the bid to commit the bidder
10	Detail of maintenance and support infrastructure at Bhubaneswar
11	Declaration of No subcontracting of the contract shall be made
12	A list of bidder's banks
13	Declaration to be submitted w.r.t. information regarding any current litigation in which the bidder is involved, the parties concerned, and disputed amount;
14	Declaration to be submitted to provide technical consultancy and guidance at no extra cost to OPTCL for proper configuration and performance and integration with OPTCL IT System
15	Valid certified **"Systems Integrator"** certificate like ISO 9001-2000, 2008 etc.
16	Technical Deviation Statement if any as per "Deviations" title in the format described in Schedule-E
17	Price Schedule (Section-V.(b)) Tenders not quoted for all the items shall not be considered
18	Comprehensive AMC Price Schedule (Section-V.(c))
19	Xerox copy of PAN, Central Service Tax Reg. Number (for companies whose HQ is outside Odisha)/ Odisha service tax registration number
20	Attested copy of TIN
21	Sales Tax Clearance (Odisha)
22	An undertaking to provide goods and services confirming to vendor specifications
23	Performance as supplier of goods & Services of similar nature over the last three years.
24	Technical literatures and original specifications sheets of each item offered on or before the last date & time of submission of tender.
25	Copy of purchase orders and completion certificate from Govt./ PSU / reputed organizations. The bidder has to produce at **least three such orders** during

	last three consecutive years out of which at least one such project should have been executed for any Govt. office / PSU / autonomous Govt. body
26	Bidder shall submit **audited BS and P&L account** for at least three years (2012-13, 2013-14, 2014-15) preceding the date of bid submission.

OUTRIGHT REJECTION:

(c) Apart from uploading scanned image as above, the following documents need to be submitted in original to the undersigned on or before the last date & time of submission of tender otherwise the bid out rightly rejected. The above document is to be submitted in a sealed cover envelope super-scribing the Tender Notice No & Date of opening of tender clearly on the envelope cover.

i. EMD : Bank Guarantee / Irrevocable letter of credit / crossed bank draft / pay order / Bank certified cheque / 50% EMD amount with registration certification as MSE for claiming exemption as the case may be towards EMD

ii. DD/Cash Receipt towards Tender paper Cost / Authentic Registration Certificate as MSE if any, for claiming tender paper cost exemption

iii. Tender Processing Fee : DD

iv. Technical literatures and original specifications sheets of each item offered.

v. Copy of purchase orders and completion certificate from Govt./ PSU / reputed organizations. The bidder has to produce at least three such orders during last three consecutive years out of which at least one such project should have been executed for any Govt. office /

vi. Bidder shall submit audited financial reports for at least three years (2012-13, 2013-14, 2014-15) preceding the date of bid submission.

vii. If the "Price Schedule" is incomplete or "Tax Breakup" not furnished, the bid shall be rejected.

B. SECTION-II

1. General Instruction to the Bidders

I. The tender specifications cover the required quantity of materials. These quantities are to be supplied by the vendor on receipt of the order. The initial order will be supplied within the stipulated period. If required, the vendor may be additionally required to supply up to 40% of the initial ordered quantity within six months of the issue of

the order without any change in the price and other terms and conditions of the original purchase order.

II. Tenders will be opened in the office of the Chief General Manager (IT) on the stipulated date and time in the presence of such of the tenderers or their authorized representatives (limited to one person) only as may desire to be present, at the time of opening the bids.

III. The tenderer may deviate from the specification while quoting if in his opinion such deviation is in line with the manufacturer's standard practice and conducive as better and more economical offer. All such deviations should however be clearly indicated giving full justifications for such deviation in a separate sheet(s) under "Deviations" title in the format described in SECTION-III.(1).XXX.

IV. The purchaser reserves the right to reject the lowest or any other tenders or all tenders without assigning any reason what so ever if it is considered expedient in the overall interest of OPTCL.

V. The tender shall be accompanied by Earnest Money Deposit of value specified under in SECTION-I.(3).

(a) The Earnest Money Deposit shall be offered in one of the following forms subject to the conditions mentioned below:

i. **Bank Draft:** A crossed bank draft/pay order/bank certified cheque drawn in favour of **"Drawing and Disbursing Officer, OPTCL Headquarters, Bhubaneswar – 751022."**

ii. **Bank Guarantee:** The bid security may be submitted in one of the following: A Bank Guarantee or irrevocable letter of credit issued directly by a nationalized bank, in the form provided in the bidding documents, or from any Nationalised Bank as per enclosed proforma.

iii. **The validity of any of the above guarantees shall be at least 240 days** from the date of opening of tender, failing which these bids will be liable for rejection.

iv. No interest shall be paid on Earnest Money Deposit

v. No adjustment towards Earnest Money Deposit shall be permitted against any outstanding amount with OPTCL.

vi. In the case of un-successful tenderer, the Earnest Money will be refunded immediately after the tender is decided. In the case of successful tenderer, this will be refunded only after furnishing of security money referred to SECTION-II.(1).XXIII. Suits, if any arising out of this clause shall be filed in a Court of law to which the jurisdiction of High Court of Odisha extends.

vii. Earnest Money will be forfeited if the tenderer fails to accept the letter of intent and / Purchase orders issued in his favour as well as satisfactory completion of the project.

(b) Revision of Tender Price By Bidders

i. After opening of tenders and within the validity period, no reduction or enhancement in price will be entertained. If there is any change in price, the tender shall stand rejected and E.M.D. deposited shall be forfeited. In case of bidders who are exempted from depositing E.M.D. and who revise their price within the validity period, the bids for similar items against subsequent tender call notice of OPTCL, may not be considered.

ii. If required, the Tenderers may be asked to extend the validity period of bids under the same terms and conditions as per the original tender except for the change in delivery period, In such an event the Tenderers are free to change any or all conditions of their bids including price at their own risk.

iii. If required, the tenderer may be requested to revalidate the tender after expiry of the validity period if required under the same terms and conditions as per original tender except for the change in delivery period, if necessary. In such an event the Tenderers are free to change any or all conditions of their bids including price at their own risk.

(c) Tenderers are expected to be fully conversant with the meaning of all the clauses of the specifications before submitting their tenders. In case of doubt regarding the meaning of any clause the tenderer may ask for clarification in writing from the Chief General Manager (IT), OPTCL, Bhubaneswar, two days before the pre-bid meeting via email to **it.mbara@optcl.co.in** i.e. 13-10-2015, 17:00Hrs**.** This however, does not entitle the tenderer to ask for time beyond due date fixed for receipt of tender.

(d) Conditional offers shall not be accepted.

(e) Tenderers shall quote for all the items under SECTION – IV: Schedule of Requirement. Tenders not quoted for all the items shall not be considered. In the event of discrepancy or arithmetical error in the schedule of price, the decision of the purchaser shall be final and binding on the Tenderer. For evaluation the price mentioned in words shall be taken as final, if there is any difference in figure and words in the price bid.

(f) The price bids of the technically and otherwise acceptable bids shall only be evaluated. The price bids of others (along with E.M.D. if any) shall be returned to the bidders unopened.

C. SECTION-III

1. General Conditions of the Contract

I. SCOPE OF THE CONTRACT:

(a) The **Scope of work** includes the Supply, Installation, Integration, Testing, Commissioning of the items mentioned in SECTION–I, at Schedule-K on General Supply at OPTCL Office, Bhubaneswar. It also includes comprehensive annual maintenance contract for a period of three years after expiry of the warranty period for three years defined in the bidding document, in accordance with the enclosed Technical Specification, bill of quantity and tender technical services as per delivery schedule.

II. **DEFINITION OF TERMS:** In writing these General Conditions of Contract, the Specification and bill of quantity, the following works shall have the meanings hereby indicated unless there is something in the subject matter or contract in consistent with such constructions.

(a) "The Purchaser" shall mean the ODISHA POWER TRANSMISSION CORPORATION LTD or OPTCL.
(b) "The Engineer" shall mean the engineers appointed by the Purchaser for the purpose of this contract.
(c) "Purchaser's representative" shall mean any person or persons or consulting firm appointed and remunerated by the Purchaser to supervise, inspect, test and examine workmanship and materials of the equipment to be supplied.
(d) "The Contractor" shall mean the Bidder whose bid has been accepted by the Purchaser and shall include the Bidders executions, administrator's successors and permitted agencies.
(e) "**IP Based CCTV Surveillance System Equipment**" shall mean and include all machineries, apparatus, materials, articles and services to be provided with respect to items mentioned in Schedule of Quantity at SECTION-I(4), under the contract by the contractor.
(f) "Contract Price" shall mean the sum named in or calculated in accordance with the provisions of the contract as the "contract price" which shall include packing, forwarding freight, Insurance, Excise Duty, Sales Tax, Octroi and other taxes and duties if applicable.
(g) "General Condition" shall mean these General Condition of Contract.
(h) "The Specification" shall mean the specification annexed to or issued with the General Conditions and shall include the schedules and drawings attached thereto as well as all samples and pattern, if any.
(i) "Month" shall mean of calendar month.
(j) "Writing" shall include any manuscript, typed/hand written/ printed or other statement re-produced in any visible form and whether under seal or under hand.
(k) "F.O.R. Destination" costs shall mean the cost of equipment and material at the consignee's store (Schedule K). The cost is exclusive of Excise Duty, Sales Tax and other local Taxes, but

is inclusive of packing, forwarding and insurance & Freight charges.

(l) The term "Contract" shall mean & include General Conditions, Specifications, and Schedules, Drawings, form of tender, covering letter, Schedule of Prices or the final General Condition, any special conditions applying the particular contract, specifications and drawings and agreement to be entered in.

(m) Terms and condition not herein defined shall have the same meaning as are assigned to them in the Indian Contract Act, failing that in the ODISHA General Clauses Act.

III. GUIDELINES FOR THE BIDDER:

(a) The Contractor shall examine the instructions to Tenderers, General Conditions of Contract, Specification, the Schedules of Quantity and delivery and rest of the bidding document to satisfy himself as to all terms and conditions and circumstances affecting the contract price. He shall quote price (s) according to his own allowances except as otherwise provided therein will be levied. The purchaser shall not be responsible for any misunderstanding or incorrect information obtained by the contractor other than information given to the contract in writing by the purchaser.

IV. PATENT RIGHTS ETC:

(a) Any dispute arising in respect of copy right act for the equipment supplied or software configured by the vendor and used by the purchaser shall be the responsibility of the vendor and the purchaser in no way shall be held responsible in any form or court of law in this regard.

V. MANNER OF EXECUTION:

(a) All equipment supplied under the contract shall be manufactured in the manner set out in the specification and to the reasonable satisfaction of the purchaser. All the **IP Based CCTV Surveillance System** equipment supplied by the contractor shall be new, unused and conforming to relevant standards.

VI. INSPECTIONS AND TESTING

(a) The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. The Purchaser shall notify what inspections and tests the Purchaser requires and where they are to be conducted.

(b) The inspections and tests may be conducted on the premises of the Manufacturer or Supplier at point of dispatch. The Supplier shall provide all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.

(c) The Purchaser's right to inspect, test, and where necessary, reject the Goods after the Goods' arrival at Project Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Purchaser or its representative prior to the Goods' shipment.

(d) Nothing in GCC SECTION-III.(VI) shall in any way release the Supplier from any warranty or other obligations under this Contract.

(e) **NOTE:** The inspection of the Goods shall be carried out to check whether the Goods are in conformity with the technical specifications attached to the contract and shall be in line with the inspection/test procedures laid down in the Technical Specifications and the General Conditions of Contract. The Purchaser may again test the equipment after completion of the installation and commissioning at the site of the installation. All the **IP Based CCTV Surveillance System** equipment shall be installed, 100%, and inspected on lab-simulated integration basis.

VII. DISPATCH INSTRUCTIONS:

(a) Free delivery should be made at the place as specified in the firm's work order.

(b) The delivery period of the items ordered, as specified, should not exceed 30 (Thirty) days from the date of dispatch instruction.

(c) The Installation and commissioning of the items ordered should be completed within 90 (Ninety) days from the date of issue of "Work Order/ Purchase Order"

(d) **Software Items**

i. Original Licenses should be delivered in form of e-license / paper license at the following id / address it.sdas@optcl.co.in, Sri Sudarsan Das AM(IT) in-charge of IT stores IT Dept. OPTCL Hqrs. BBSR

ii. The delivery activation period of the Licenses ordered, as specified**,** should not exceed 04 (Four) weeks from the date of issue of "Purchase Order".

iii. Free installation to be made at the PCs/Laptops of users of OPTCL Bhubaneswar or sites throughout Odisha.

VIII. MANUALS AND DRAWINGS:

(a) Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals, drawings (CCTV network, LAN network, power network, data flow network.) of the goods, equipment, network connectivity and computer architecture designs. These shall be in such detail as will enable the Purchaser to operate, maintain, adjust and repair all parts of the equipment as stated in the specifications.

(b) The manuals and drawings shall be in the English language and in such form and numbers as stated in the contract.

IX. DOCUMENTATION:

(a) The Supplier shall provide complete and legal documentation of all **IP Based CCTV Surveillance System** equipment and the associated software. The supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

X. ACCEPTANCE TEST:

(a) The installation and commissioning will be deemed complete only after it passes successfully through the acceptance test and an acceptance certificate is issued.

(b) The acceptance test will be conducted by the Purchaser, their consultant or any other person nominated by the Purchaser, at its option. The acceptance will involve trouble-free integrated operation of all items of supply for seven consecutive days. There shall not be any additional charges for carrying out acceptance test. No malfunction, partial or complete failure of any part should occur. No missing modules/sections will be allowed. The Supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the Purchaser. An average uptake efficiency of 100% for the duration of test period shall be considered as satisfactory. Sampled IT Items, as decided by IT, OPTCL, shall be subjected to acceptance test procedures for drawing conclusions in this regard.

(c) In the event of the IP Based CCTV Surveillance equipment of the Contract failing to pass the acceptance test, a period not exceeding **ten days** will be given to rectify the defects and clear the acceptance test, failing which the Purchaser reserves the rights to get the equipment replaced by the Supplier at no extra cost to the Purchaser.

(d) Successful conduct and conclusion of the acceptance tests for the installed goods and equipment and configured services shall also be the sole responsibility and at the cost of the Supplier.

XI. SUPPLIER'S OBLIGATIONS

(a) The Supplier is obliged to work closely with the Purchaser's staff, act within its own authority and abide by directives issued by the Purchaser during implementation activities.

(b) The Supplier will abide by the job safety measures prevalent in India and will free the Purchaser from all demands or responsibilities arising from accidents or loss of life during installation and commissioning activities. The Supplier will pay all indemnities arising from such incidents and will not hold the Purchaser responsible or obligated.

(c) The Supplier is responsible for managing the activities of its personnel or sub-contracted personnel and will hold itself responsible for any misdemeanours.

(d) The Supplier will treat as confidential all data and information during the execution of his responsibilities and will not reveal such information to any other party without the prior written approval of the Purchaser.

XII. SITE PREPARATIONS

(a) The Purchaser is solely responsible for providing the storage, installation and commissioning site for the installation of IP Based CCTV Surveillance equipment in compliance with the technical and environmental specifications defined by the Supplier. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of IP Based CCTV Surveillance equipment.

XIII. CCTV EQUIPMENT INSTALLATION

(a) The Supplier is responsible for all unpacking, assemblies, installation, wiring, cabling between IT / UPS equipment and connecting to power supplies. The Supplier will test all IP Based CCTV Surveillance equipment operations and accomplish all adjustments necessary for successful and continuous operation of all the IP Based CCTV Surveillance equipment being procured through this contract.

XIV. CONTRACT'S DEFAULT LIABILITY:

(a) The purchaser may upon written notice of default to the contractor terminate the contract in circumstances detailed hereunder.

i. If in the judgment of the purchaser, the contractor fails to make delivery of equipment within the time specified in the contract or within the period for which extension has been granted by the purchaser, to the contractor.

ii. If in the judgment of the purchaser, the contractor fails to supply with any of the other provisions of this contract.

(b) In the event purchaser terminates the contract in whole or in parts as provided in SECTION-I.(4), the purchaser reserves the right to purchase upon such terms and in such a manner as he may deem appropriate, equipment similar to that of terminated

and the contractor will be liable to the purchaser for any additional costs for such similar equipment and/or for penalty for delay as defined in SECTION–III.(1).XXIV until such reasonable time as may be required for the final supply of equipment. Execution of contract under such circumstances shall however be on express written willingness of both the parties.

(c) In the event the purchaser does not terminate the contract as provided in SECTION-III.(XIV).(a) above, Contractor shall continue the performance of the contract, in which case he shall be liable to the purchaser for penalty for delay as set out in SECTION–III.(1).XXIV until the equipment is accepted. Execution of the contract under such circumstances shall however be on express written willingness of both the parties.

XV. REJECTION OF MATERIALS:

(a) In the event on any of the materials/ equipment supplied by the contractor is found defective in materials or workmanship or otherwise not in conformity with the requirements of the contract specification, the purchaser shall reject the materials/equipment and request the contractor in writing to rectify the same. The contractor on receipt of such notification shall either rectify or replace the defective equipment free of cost to the purchaser. If the contractor fails to do so within 30 days of written notice, the purchaser may:

i. At its option replace or rectify such defective equipment and recover the extra costs so involved from the contractor and/or
ii. Terminate the contract for balance work/supplies, with enforcement of penalty as per contract.
iii. Acquires the affected equipment/materials and services at reduced price considered equitable under the circumstances
iv. The contractor shall not be allowed any extension in contract completion period due to time taken to replenish the rejected material/work.

XVI. EXTENSION OF TIME:

(a) If the delivery of equipment/materials is delayed due to reasons beyond the control of the contractor, the contractor shall without delay give notice to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice may agree to extend the contract delivery date as may be reasonable but without prejudice to other terms and conditions of the contract.

XVII. WARRANTY:

(a) **Software Items:** The vendor shall warrant that, the licenses so procured meet the OEM warranty.

(b) **Hardware Items:**

i. The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials unless provided otherwise in the Contract and all the Services configured shall render trouble free function. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Purchaser's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

ii. This warranty shall remain valid for thirty-six (36) months after the Goods, inspected 100%, have been delivered, commissioned at the final destination indicated in the Contract or 40 months from the date of 100% delivery whichever is earlier.

(c) The free comprehensive support during the warranty period will include the following:

i. All defects and complaints shall be communicated to the "Vendor" by the "Purchaser" through mail or any other complaint registration method mutually agreed by the purchaser and vendor.

ii. The vender shall rectify the fault within 24 hours from the time of registration of the complaint.

iii. System re-adjustment and/or system changing-over support on occasions of re-configuration and/or upgrade and extensions if any.

iv. The vendor shall be responsible for any defects that may arise out under normal usage due to faulty materials attached to the system, designing lacuna or poor workmanship. The vendor shall have to take immediate remedial measure for such defects at his own cost when called upon to do so by the Purchaser.

v. The vendor should also guarantee that the equipment and its accessories supplied are complete and fully compatible in every respect, and conform to technical specifications of design, material and workmanship

mentioned in the quotation. The vendor should also guarantee that the equipment and its accessories supplied would perform satisfactorily as per requirements mentioned in the specification.

vi. Any software support like update/enhancement/upgrade etc. Released till the completion of warranty and during Annual Maintenance (if Contracted) shall be supplied, installed and commissioned free of cost by the bidder, irrespective of whether or not OEM charges for the same.

vii. Software support is defined especially as helpdesk, update/enhancement, upgrade, technical guidance on usage of features and functionality, problem solving and troubleshooting. Rectification of bugs, enabling features of the software already provided, providing additional user controlled reports, future product information, migration path details and consultancy.

viii. Any corruption in the Software or media or defect in the Hardware shall be rectified/ replaced within 15 days of notification during the full period of the contract including Warranty and CAMC, at no extras cost to the OPTCL.

ix. In case of violation of any of the conditions of warranty (for three years). The Composite Bank Guarantee shall be invoked by OPTCL. In case the violation of the condition of warranty is not set right by the vendor, the Composite Bank Guarantee shall be extended beyond three years for which the vendor shall request the banker for the same. The formalities for extension of warranty should be completed well in advance of the expiry of warranty period by the vendor/bidder; otherwise OPTCL will be forced to invoke the said Composite Bank Guarantee.

x. If any equipment gives continuous trouble, say six times in one month, during the warranty period, the Supplier shall replace the equipment with new equipment without any additional cost to the Purchaser.

xi. In case, the downtime of a unit exceeds 24 hours and the fault is not rectified or faulty equipment not replaced within stipulated period as detailed in SECTION-III.(1).XXIV above, a penalty of Rs.100/- per day per faulty unit will be charged and will be recovered from the performance guarantee or from any sum thereafter that may become due to the vendor out of this contract or any other contract with OPTCL, Bhubaneswar. 24 hours or part thereof beyond the

stipulated downtime shall be counted as a full day for calculation and imposition of penalty.

xii. **NOTE:** The penalty will be adjusted from the Composite Bank Guarantee till it exceeds 50% of the guarantee amount at which point, the Chief General Manager (IT), OPTCL reserves the right to cancel the contract. In such cases, the full amount of Composite Bank Guarantee shall be forfeited to the OPTCL.

XVIII. **POST WARRANTY MAINTENANCE**:

(a) The Vendor shall provide post warranty maintenance soon after the warranty period is over for a period of three years. The vendor must complete 3 yrs. CAMC agreement well in advance of the 3 years warranty, **failing which necessary action towards forfeiture of CBG will be initiated as deemed fit.**

(b) A Bank Guarantee of 2% of the cost of the total project (excluding Comprehensive Annual Maintenance Charges) shall be furnished from any Nationalized/ Scheduled Bank to Chief. General Manager (I.T), OPTCL, Bhubaneswar before completion of the warranty period executed in a non-judicial stamp paper worth of Rs. 29/- (Rupees Twenty nine) only subject to change as per Orissa Stamp Duty Act. Valid for a period of 39 months (Thirty Nine months) from the date of commencement of CAMC period. No interest will be payable on the Bank Guarantee.

(c) The annual maintenance charges shall be paid in quarterly instalments at the end of each quarter.

(d) The firm has to conduct quarterly preventive maintenance of each equipment/ component of the project. In case the firm fails to conduct the quarterly preventive maintenance of any equipment /component of the project, a penalty of 30% of the CAMC charges of the equipment for the quarter shall be deducted from the CAMC charges.

(e) The compressive warranty support & penalties on downtime thereof shall be applicable as specified under the SECTION-III.(1).XVII. and 25% penalty mentioned above.

(f) The Purchaser reserves the right to terminate the maintenance and repairs contract, after the warranty period, at any time

without assigning any reasons and the Supplier cannot claim any compensation in this respect.

(g) The vendor should also maintain the level of spares during post-warranty maintenance for the IP Based CCTV Surveillance equipment supplied at the ratio of 1:20. The same shall be verified by an officer nominated by the C.G.M (IT) in every Quarter during the period of contract.

XIX. **PRICE:**

(a) Bidders are requested to quote their FIRM price only for each individual item covered under schedule of requirement. No price variation shall be entertained at any time during the contract period.

(b) All prices quoted must be firm and valid for 180 (One hundred and eighty) days from the date of opening of the commercial bid.

(c) The prices shall be for destination only at the consignees store(s) inclusive of packing, forwarding, freight and insurance.

(d) Wherever the issue of foreign exchange is involved due to import of materials from a country other than India, the same shall be paid by the vendor. Import License, marine freight, insurance, customs duty, surcharge, port handling and clearing charges etc. all shall be vendors account and purchasers shall not be responsible in any way in this regard. All such costs shall be presumed to have been included in unit prices under column No.13 of Price Schedule in Section – V.(III.Schedule-C)(b).

XX. **IMPORT LICENCE:**

(a) In case imported materials are offered no assistance will be given for Import License or release of Foreign Exchange. The firm should arrange to import materials from their own quota.

XXI. **VALIDITY:**

(a) Prices and conditions of sale of the offer should be valid for a period of 180 (One hundred and Eighty**)** days from the date of opening of the tender. However, the tenderer shall confirm in writing in the tender in this regard, otherwise, must mention his validity period in writing in the tender failing which the tender shall be rejected.

XXII. **TERMS OF PAYMENT:**

(a) **Hardware Items**

i. 60% of the Contract Price shall be released on receipt of items in good condition on delivery, verification and

stores entry of the all ordered IT Items which are fully factory inspected and inspection report is duly accepted by IT, OPTCL on submission of the following documents.

ii. Pre-receipted bills in triplicate along with necessary delivery challans and related documents should be submitted for arranging the payment.

iii. No advance payment in any form will be made.

iv. Handling of foreign exchange component and customs clearances, if any, must be taken care of by the bidder.

v. The supplier shall furnish Bank Guarantee of appropriate amount to OPTCL covering 10% (Composite Bank Guarantee) of contract price valid for 39 months (thirty nine months) from date of delivery. For this purpose the contract price shall mean firm price.

vi. OEM warranty certificate for 3 years from the date of installation.

vii. Balance amount shall be payable after submission of installation certificate, bills in triplicate, BG as per clause and other necessary documents as requested by the Purchaser.

(b) **Software Purchases**

i. Bills (in triplicate)

ii. Certificate from AM(IT) IT stores-in-charge for receipt of e-License / paper License

iii. OEM Warranty certificate if any

iv. Submission of BG as above at XXII.(a).v.

v. Delivery Challan for Hardware item duly signed by respective consignees.

vi. Verification Certificate.

XXIII. **COMPOSITE BANK GUARANTEE:**

(a) A composite Bank Guarantee at the rate of 10% (Ten per cent) of the value of the total project (excluding CAMC) shall be furnished from any Nationalised/Scheduled Bank to the Chief General Manager (I.T), OPTCL within 30 (thirty) days of issue of the purchase order, executed in a non-judicial stamp paper worth of Rs.29/- (Rupees twenty nine) only subject to change as per ODISHA Stamp Duty Act valid for a period of 39 (thirty nine) months from the schedule date of delivery of last lot strictly as per proforma enclosed, towards security, 100%

payment and performance guarantee purposes failing which the purchase order will be treated as cancelled. In the event of any breach or default in all or any of the conditions set forth and provided in the purchase order, the purchaser may forfeit the whole amount of the composite bank guarantee. The forfeiture of the composite Bank guarantee shall not in any way affect, limit or extinguish any remedy or relief to which the above authority may at any time be lawfully entitled.

(b) No interest will be payable on Composite Bank Guarantee amount.

XXIV. SERVICE LEVELS AND PENALTIES TOWARDS NON PERFORMANCE

(a) Delay in execution of any supply order against this tender shall attract penalty.

(b) **Penalty:** If the supplier fails to complete the delivery as per delivery schedule specified, OPTCL shall recover from the supplier as penalty a sum of 0.5% of the item value of the undelivered portion (item) for each calendar week or part there of subject to a maximum of 5% of the ordered unit license price. Imposition of penalty is however subject to force majeure conditions.

(c) **Software Items:** For this purpose the date of receipt of e-license through e-mail shall be reckoned as the date of delivery. Imposition of penalty is however subject to force majeure conditions.

(d) **For installation and commissioning:** If the installation, commissioning training and acceptance is not completed within the schedule time the penalty @ 0.5% of the total installation cost for each week subject to minimum or 5% shall be recovered.

(e) **Force Majeure Clause:** The supplier shall not be liable for any penalty for delay or for failure to perform the contract for reasons of force majeure such as acts of God, acts of the public enemy, acts of Govt., Fires, floods, epidemics, Quarantine restrictions, strikes, Freight Embargoes / failure in downloading, activating the license due network problems, server down, link failure, site not ready, consignee absent and provided that the supplier shall within Ten (10) days from the beginning of such delay notify the purchaser in writing of the cause of delay along with documentary evidence. The

purchaser shall verify the facts and grant such extension, if facts justify.

XXV. INSURANCE:

(a) Insurance of Stores covered by this specification shall be done by the suppliers with their own insurance unless otherwise stated. The responsibility of delivery of the stores at destination in good condition rests with the supplier. Any claim with the Insurance Company or transport agency arising due to loss or damage in transit has to be settled by the supplier. The supplier shall undertake free replacement of materials damaged or lost which will be reported by the consignee within 30 (Thirty) days of receipt of the materials at destination without waiting for the settlement of their claims with the carriers and underwriters. In case the replacement of damaged item/part is not done within 30 days, the material shall be treated as not delivered and shall attract penalty till replacement as per clause under heading "Rejection of Materials".

XXVI. PAYMENT DUE FROM THE CONTRACTOR:

(a) All costs and damages, for which the contractor is liable to the purchaser, will be deducted by the purchaser from any money due to the contractor under the contract or through the composite Bank Guarantee submitted by him.

XXVII. **JURISDICTION OF THE HIGH COURT OF ODISHA:**

(a) Suits, if any, arising out of this contract shall be filed by either party in a court of law to which the jurisdiction of High Court of ODISHA extends.

XXVIII. **SALES TAX, INCOME TAX CLEARANCE, BALANCE SHEET AND PROFIT ANDLOSS ACCOUNT:**

(a) Sales Tax certificate and PAN should be enclosed with the tender along with Balance Sheet and P&L statement for the three preceding financial years.

XXIX. **CERTIFICATE FOR EXEMPTION FROM EXCISE DUTY:**

(a) Offers with exemption from Excise Duty shall be accompanied with authenticated proof of such exemption. Authenticated proof for this clause shall mean Photostat copy of exemption certificate.

XXX. DEVIATION FROM SPECIFICATION:

(a) It is in the interest of the tenderers to study the specification, drawings etc. specified in the tender schedule thoroughly before tendering so that, if any deviations are made by the tenderers the same are prominently brought out in the body of their tender. A list of deviations shall be enclosed to the Tender. Unless deviations in scope, technical and commercial

are specifically mentioned in the list of deviations, it shall be presumed that the tenderer has accepted the conditions in the Tender Specification in toto, notwithstanding any exemptions mentioned also elsewhere in the tender.

XXXI. **RIGHT TO REJECT/ACCEPT ANY TENDER:**

(a) The purchaser reserves the right either to reject or to accept any or all tenders. The purchaser has exclusive right to alter the quantities of materials at the time of placing final purchase order. After placing of the order the purchaser may defer the delivery of the materials. It may be clearly understood by the tenderer that the purchaser need not assign any reason for the above action.

XXXII. **CONTRACTOR'S RESPONSIBILITY:**

(a) Notwithstanding anything mentioned in the specification or subsequent approval or acceptance of the purchaser, the ultimate responsibility for design of materials and satisfactory performance shall rest with the tenderers.

XXXIII. **EVALUATION OF BIDS:**

(a) In comparing bids and in making awards the purchaser may consider such factors as compliance with specifications, relative quantity, land adaptability of supplies or services, experience, financial soundness, records of integrity in dealings, performance of materials/equipment earlier supplied, utility to furnish repairs and maintenance services, the time of delivery, capability to perform including available facilities such as adequate shops, plants, equipment and technical organization. All costs incidental to execution of the Contract including take-back items shall be taken into consideration in addition to the above for evaluation of offers.

XXXIV. **MINIMUM QUALIFICATION CRITERIA OF BIDDERS:**

(a) All the prospective bidders are requested to note that their bids can only be considered for evaluation only if they fulfil all the required criteria mentioned in the General Information to Bidders in the tender. Bidders, who do not fulfil these criteria, need not submit their bids.

XXXV. **LANGUAGE AND MEASURES:**

(a) All documents pertaining to the contract including specifications, schedule, notices, correspondences, operating and maintenance instructions, drawings or any other writing

shall be written in English language. The metric system of measurement shall be used exclusively in this contract.

XXXVI. **CORRESPONDENCES:**

(a) Any notice to the contractor under the terms of the contract shall be served by Registered mail or by hand at the contractor's principal place of business.

(b) Any notice to the purchaser shall be served at the OPTCL's principal office in the same manner.

XXXVII. **LEGAL ADDRESS OF THE PARTIES:**

(a) The address of the parties to the contract shall be specified.

i. Purchaser:

Chief General Manager (IT), Odisha Power Transmission Corporation Ltd.

3rd Floor, OPTCL Tower, Janpath,

Bhubaneswar – 751 022, ODISHA, India

ii. Contractor:

(To Be Filled By the Tenderer)

XXXVIII. COPY RIGHT PROTECTION OF TENDER DOCUMENT:

(a) The contractor shall treat the details of the Specification and other Tender documents as private and confidential and they shall not be reproduced without written authorization from the purchaser.

D. SECTION-IV

1. Schedule of Technical Requirements:

I. Introduction:

(a) Odisha Power Transmission Corporation Limited is planning to install IP Based CCTV Surveillance system in all its grid substations across Odisha

II. Scope:

(a) The scope of work includes the supply, installation and configuration of the IP Based CCTV Surveillance System Equipment mentioned at Section-I.(4), that will include the following:

i. Comprehensive on-site warranty for the products supplied for a period of 3 years after successful installation of the system for each site.

ii. Commitment for rendering Comprehensive AMC for 3 years post warranty.

III. Technical Specifications:

(a) **Hardware:**

i. PTZ Camera

Sl No	**Technical Requirement**		
	Approved Make: BOSCH/ HONEYWELL/ AXIS/ PELCO/ HIKVISION/ CP Plus		
1	CAMERA	Type of camera	PTZ
		Place of installation	Outdoor type
		Industrial grade	Yes
		Image/Video quality	2MP/1080p/Full HD
		Sensor	CMOS
		Len	Veri focal length
			Industrial grade
			LAN output
			Max. basic analytics should reside in the camera
2	OPERATIONAL	In-Built IR LED	upto 200mtrs min.
		To view image clearly in case of sudden change for lighting conditions	WDR (Wide Dynamic Range)
		Backlight compensation	True Backlight compensation feature
		Pan/Tilt/Zoom feature	True Pan/Tilt/Zoom feature should be available

		De-Fog Feature	True de-fog feature
		Horizontal speed (variable):	Min 0.1°/s to 200°/s
		Tilt speed (variable)	Min. 0.1°/s a 200°/s
		Preset accuracy	Min. 0.05°
		Variable speed	Min. 0.1°-200°/s Pan/Tilt
		Integrated wiper	Yes
		Zero backlash	True zero back lash
		Optical Zoom	36X optical zoom (min.)
		Digital Zoom	16X digital zoom (min.)
		Scanning System	NTSC/PAL, Progressive
		Lighting condition	The camera should be able to capture clear image/video in 0.0001 Lux to full sunlight lux
		IP Compression/ Standard	H.264/ MPEG4/MJPEG
		S / N Ratio	>90dB(Min.)
		Backlight Compensation	Off / BLC / HLC / WDR
		Effective viewable length	Min. 150 mtrs to 250 mtrs
		Day/Night feature	True D/N feature
		Contrast Enhancement	Yes (Auto, Manual)
		Digital Image Stabilization	True digital image stabilization feature
		Motion Detection	True motion detection feature
		Privacy Masking	True max. privacy masking

		White Balance	Auto/ Indoor/ Outdoor/ ATW/ Manual
		Flip / Mirror	Mechanical/ Digital/ Off
		Intelligent Video Analytics	The camera should have in-built basic video analytics like motion tracking, trip line, object removed, and like so.
3	NETWORK	Video Compression Format	The IP camera should be compatible with all current & latest image/video compression format available in the industry like H.264/ MPEG4/MJPEG. It should also support some of the recent past compression format as per requirement of the actual place of system implementation.
		Resolution	Min. 2MP - 3MP/1080p/ Higher
		Frame rate per second	Min. 30 FPS. The max. frame should be as per need of the system so as to view the video as per "True Real Time". The max. frame rate should be such that transmission takes place as fast as possible without causing much congestion in the network. Flexibility should be there in the network to change the frame rate as per second as per requirement.
		Streaming Capability	The IP camera network should be compatible with all types of streaming technology currently being used in the industry. It should include all latest technology as well as some of the recent past technology as per the requirement of the actual place of system implementation.
		Audio I/O	The IP camera network should be compatible with all types of audio I/O source that currently being used and any other advance technology that might be developed in the future

		Audio Compression Format	The camera network should support all the latest IP camera compression format being used in the industry as well as all that is currently being used like AAC, G.711, G.726 & some of the recent past in the industry as per the requirement of the actual place of posting of system implementation.
		Audio Communication	There should be provision that the IP camera network should support all the latest audio technology currently being used in the industry. The camera network should support min. two-way audio(full duplex) technology. If there is any other better technology available in the market best suited for the purpose, the IP camera network should support the same.
		Protocol	The camera network should support all the existing as well as the latest network protocols being used in the industry. It should support min. the following protocols TCP/IP, DHCP, PPPoE, SMTP, NTP, HTTP, DNS, DDNS, RTP, RTSP, UPnP, SNMP, HTTPS, FTP, 802.1x, QoS, IPv4/IPv6. Any other latest network protocol being used in the industry should also be supported.
		Security	User account & password protection HTTPS, IP Filter, IEEE 802.1x
		Streaming Method	The camera should be able to use the latest steaming methods in the industry that will be beneficial for the purpose. It should support min. Full duplex, Simplex streaming methods.
		ONVIF Conformance	The camera should have ONVIF conformance

		Web Viewer	The camera software should be able to be viewed in any of the web browser currently being used. It should be able to be viewed in Mozilla Firefox/Internet Explorer/Chrome/Safari/any other latest browser. The camera viewing software should be supported by the latest version of the web browser as well as few the older versions, in cases where the place of implementation have PCs with older versions of web browser.
4	ENVIRONMENTAL	Operating Temperature / Humidity	The camera should be able to operate full blast without any interference by the temperature/humidity of the environment of the actual place of system implementation. Min. standard conformance should be (-40 deg. C to +80 deg. C); Humidity: 20-90% relative humidity(non-condensing)
		Ingress Protection/ Waterproof Standard	The min. weather rating of the camera should be IP66. Higher rating if needed, based on the actual place of system implementation is desirable
		Vandal Resistance/ Impact rating	The min. impact rating of the camera should be IK10. Higher rating if needed, based on the actual place of system implementation is desirable
		Surge immunity	Min. 2kV line to line, Min. 4kV line to earth (Class 4)
		Wind resistance	Operational: min. 150km/h
			Stationary: min. 200km/h
5	ELECTRICAL	Input Voltage / Current	The camera should be compatible to work with any kind of input source available. It should be able to operate with PoE/VAC/VDC/ any other latest mode of power sources available in the industry. The input voltage/current should be as is appropriate for the functioning of the camera.

		Power Consumption	The camera should be able to operate full blast with min. power consumption. It should be able to operate on PoE/ direct raw power supply.
6	REGULATORY	Safety	The camera should comply with the latest safety regulatory norms as listed by national & international organizations in the industry
		Outdoor installation	EN60950-22, IEC60950-22
		Electromagnetic compatibility (CE)	EN610000-6-4, EN50130-4, EN55022 (Class A), FCC Part 15 (Class A)
		Photo biological safety (CE)	EN62471
7	STORAGE	Media	There should be built-in SD card slot. The camera should support all types of SD card format (SD/SDHC/SDXC/ any other latest technology card slot) available Min. capacity of the card should be the max. available on SD card format.
		Capacity	The min. storage capacity should be 64GB. Higher the capacity, more preferable.
		Automatic recording/ Auto transfer/ Auto clean	In case the network fails the camera recording should automatically switch to local SD card recording available in the camera. Once the network is up & running, the recorded data in SD card should automatically start transmitting to the main storage location and then, once all data has been transferred completely, the SD card should be ready for recording in full capacity in case of another such network failure event.

ii. Outdoor Fixed Cameras

Sl No	Technical Requirement
	Approved Make: BOSCH/ HONEYWELL/ AXIS/ PELCO/ HIKVISION/ CP Plus

1	**CAMERA**	Type of camera	Fixed
		Place of installation	Outdoor type
		Industrial grade	Yes
		Image/Video quality	2MP/1080p/Full HD
		Sensor	CMOS
		Lens	Veri focal length
			Industrial grade
			LAN output
			Max. basic analytics should reside in the camera
2	**OPERATIONAL**	IR LED	In-Built IR LED up to 200mtrs min.
		To view image clearly in case of sudden change for lighting conditions	WDR (Wide Dynamic Range)
		Backlight compensation	True Backlight compensation feature
		De-Fog Feature	True de-fog feature
		Preset accuracy	Min. 0.05°
		Integrated wiper	Yes
		Zero backlash	True zero back lash
		Optical Zoom	36X optical zoom (min.)
		Digital Zoom	16X digital zoom (min.)
		Scanning System	NTSC/PAL, Progressive
		Lighting condition	The camera should be able to capture clear image/video in 0.0001 Lux to full sunlight lux

		IP Compression/ Standard	H.264/ MPEG4/MJPEG
		S / N Ratio	>90dB(Min.)
		Backlight Compensation	Off / BLC / HLC / WDR
		Effective viewable length	Min. 150 mtrs to 250mtrs (Effective)
		Day/Night feature	True D/N feature
		Contrast Enhancement	Yes (Auto, Manual)
		Digital Image Stabilization	True digital image stabilization feature
		Motion Detection	True motion detection feature
		Privacy Masking	True max. privacy masking
		White Balance	Auto/ Indoor/ Outdoor/ ATW/ Manual
		Flip / Mirror	Mechanical/ Digital/ Off
		Intelligent Video Analytics	The camera should have in-built basic video analytics like motion tracking, trip line, object removed, and like so.
		Video Compression Format	The IP camera should be compatible with all current & latest image/video compression format available in the industry like H.264/ MPEG4/MJPEG. It should also support some of the recent past compression format as per requirement of the actual place of system implementation.
		Resolution	Min. 2MP/1080p/ Higher

		Frame rate per second	Min. 30 FPS. The max. frame should be as per need of the system so as to view the video as per "True Real Time". The max. frame rate should be such that transmission takes place as fast as possible without causing much congestion in the network. Flexibility should be there in the network to change the frame rate as per second as per requirement.
		Streaming Capability	The IP camera network should be compatible with all types of streaming technology currently being used in the industry. It should include all latest technology as well as some of the recent past technology as per the requirement of the actual place of system implementation.
3	**NETWORK**	Audio I/O	The IP camera network should be compatible with all types of audio I/O source that currently being used and any other advance technology that might be developed in the future
		Audio Compression Format	The camera network should support all the latest IP camera compression format being used in the industry as well as all that is currently being used like AAC, G.711, G.726 & some of the recent past in the industry as per the requirement of the actual place of posting of system implementation.
		Audio Communication	There should be provision that the IP camera network should support all the latest audio technology currently being used in the industry. The camera network should support min. two-way audio(full duplex) technology. If there is any other better technology available in the market best suited for the purpose, the IP camera network should support the same.

		Protocol	The camera network should support all the existing as well as the latest network protocols being used in the industry. It should support min. the following protocols TCP/IP, DHCP, PPPoE, SMTP, NTP, HTTP, DNS, DDNS, RTP, RTSP, UPnP, SNMP, HTTPS, FTP, 802.1x, QoS, IPv4/IPv6. Any other latest network protocol being used in the industry should also be supported.
		Security	User account & password protection HTTPS, IP Filter, IEEE 802.1x
		Streaming Method	The camera should be able to use the latest steaming methods in the industry that will be beneficial for the purpose. It should support min. Full duplex, Simplex streaming methods.
		ONVIF Conformance	The camera should be ONVIF conformance
		Web Viewer	The camera software should be able to be viewed in any of the web browser currently being used. It should be able to be viewed in Mozilla Firefox/Internet Explorer/Chrome/Safari/any other latest browser. The camera viewing software should be supported by the latest version of the web browser as well as few the older versions, in cases where the place of implementation have PCs with older versions of web browser.
4	**ENVIRONMENTAL**	Operating Temperature / Humidity	The camera should be able to operate full blast without any interference by the temperature/ humidity of the environment of the actual place of system implementation. Min. standard conformance should be (-10 deg centigrade to +70 deg. Centigrade); Humidity: 20-90% relative humidity(non-condensing)
		Ingress Protection/ Waterproof Standard	The min. weather rating of the camera should be IP66. Higher rating if needed, based on the actual place of system implementation is desirable

		Vandal Resistance/ Impact rating	The min. impact rating of the camera should be IK10. Higher rating if needed, based on the actual place of system implementation is desirable
		Surge immunity	Min. 2kV line to line, Min. 4kV line to earth (Class 4)
		Wind resistance	Operational: min. 150km/h
			Stationary: min. 200km/h
5	**ELECTRICAL**	Input Voltage / Current	The camera should be compatible to work with any kind of input source available. It should be able to operate with PoE/VAC/VDC/ any other latest mode of power sources available in the industry. The input voltage/current should be as is appropriate for the functioning of the camera.
		Power Consumption	The camera should be able to operate full blast with min. power consumption. It should be able to operate on PoE/ direct raw power supply.
6	**REGULATORY**	Safety	The camera should comply with the latest safety regulatory norms as listed by national & international organizations in the industry
		Outdoor installation	EN60950-22, IEC60950-22
		Electromagnetic compatibility (CE)	EN610000-6-4, EN50130-4, EN55022 (Class A), FCC Part 15 (Class A)
		Photo biological safety (CE)	EN62471
7	**STORAGE**	Media	There should be built-in SD card slot. The camera should support all types of SD card format(SD/SDHC/SDXC/ any other latest technology card slot) available Min. capacity of the card should be the max. available on SD card format.

		Capacity	The min. storage capacity should be 64GB. Higher the capacity, more preferable.
		Automatic recording/ Auto transfer/ Auto clean	In case the network fails the camera recording should automatically switch to local SD card recording available in the camera. Once the network is up & running, the recorded data in SD card should automatically start transmitting to the main storage location and then, once all data has been transferred completely, the SD card should be ready for recording in full capacity in case of another such network failure event.

iii. Indoor Dome Cameras

Sl No	**Technical Requirement**		
	Approved Make: BOSCH/ HONEYWELL/ AXIS/ PELCO/ HIKVISION/ CP Plus		
1	**CAMERA**	Type of camera	Fixed dome type
		Place of installation	Indoor
		Industrial grade	Yes
		Image/Video quality	2MP/1080p/Full HD
		Sensor	CMOS
		Lens	Veri focal length
			Industrial grade
			LAN output
			Max. basic analytics should reside in the camera
2	**OPERATIONAL**	IR LED	In-Built IR LED upto 30mtrs min.

		To view image clearly in case of sudden change for lighting conditions	WDR (Wide Dynamic Range)
		Backlight compensation	True Backlight compensation feature
		De-Fog Feature	True de-fog feature
		Preset accuracy	Min. 0.05°
		Zero backlash	True zero back lash
		Optical Zoom	36X optical zoom (min.)
		Digital Zoom	16X digital zoom (min.)
		Scanning System	NTSC/PAL, Progressive
		Lighting condition	The camera should be able to capture clear image/video in 0.0001 Lux to full sunlight lux
		IP Compression/ Standard	H.264/ MPEG4/MJPEG
		S / N Ratio	>90dB(Min.)
		Backlight Compensation	Off / BLC / HLC / WDR
		Effective viewable length	Min. 15 mtrs to 35mtrs (Effective)
		Day/Night feature	True D/N feautre
		Contrast Enhancement	Yes (Auto, Manual)
		Digital Image Stabilization	True digital image stabilization feature
		Motion Detection	True motion detection feature
		Privacy Masking	True max. privacy masking
		White Balance	Auto/ Indoor/ Outdoor/ ATW/ Manual

		Flip / Mirror	Mechanical/ Digital/ Off
		Intelligent Video Analytics	The camera should have in-built basic video analytics like motion tracking, trip line, object removed, and like so.
		Video Compression Format	The IP camera should be compatible with all current & latest image/video compression format available in the industry like H.264/ MPEG4/MJPEG. It should also support some of the recent past compression format as per requirement of the actual place of system implementation.
		Resolution	Min. 2MP/1080p/ Higher
		Frame rate per second	Min. 30 FPS. The max. frame should be as per need of the system so as to view the video as per "True Real Time". The max. frame rate should be such that transmission takes place as fast as possible without causing much congestion in the network. Flexibility should be there in the network to change the FPS as per requirement like in case of an event the FPS should be max. and then at other times, it can be reduced.
		Streaming Capability	The IP camera network should be compatible with all types of streaming technology currently being used in the industry. It should include all latest technology as well as some of the recent past technology as per the requirement of the actual place of system implementation.
3	**NETWORK**	Audio I/O	The IP camera network should be compatible with all types of audio I/O source that currently being used and any other advance technology that might be developed in the future

		Audio Compression Format	The camera network should support all the latest IP camera compression format being used in the industry as well as all that is currently being used like AAC, G.711, G.726 & some of the recent past in the industry as per the requirement of the actual place of posting of system implementation.
		Audio Communication	There should be provision that the IP camera network should support all the latest audio technology currently being used in the industry. The camera network should support min. two-way audio(full duplex) technology. If there is any other better technology available in the market best suited for the purpose, the IP camera network should support the same.
		Protocol	The camera network should support all the existing as well as the latest network protocols being used in the industry. It should support min. the following protocols TCP/IP, DHCP, PPPoE, SMTP, NTP, HTTP, DNS, DDNS, RTP, RTSP, UPnP, SNMP, HTTPS, FTP, 802.1x, QoS, IPv4/IPv6. Any other latest network protocol being used in the industry should also be supported.
		Security	User account & password protection HTTPS, IP Filter, IEEE 802.1x
		Streaming Method	The camera should be able to use the latest steaming methods in the industry that will be beneficial for the purpose. It should support min. Full duplex, Simplex streaming methods.
		ONVIF Conformance	The camera should be ONVIF conformance

		Web Viewer	The camera software should be able to be viewed in any of the web browser currently being used. It should be able to be viwed in Mozilla Firefox/Internet Explorer/Chrome/Safari/any other latest browser. The camera viewing software should be supported by the latest version of the web browser as well as few the older versions, incases where the place of implementation have PCs with older versions of web browser.
4	**ENVIRONMENTAL**	Operating Temperature / Humidity	The camera should be able to operate full blast without any interference by the temperature/humidity of the environment of the actual place of system implementation. Min. standard conformance should be (-10 deg. centigrade to +70 deg. Centigrade); Humidity: 20-90% relative humidity(non-condensing)
		Ingress Protection/ Waterproof Standard	The min. weather rating of the camera should be IP66. Higher rating if needed, based on the actual place of system implementation is desirable
		Vandal Resistance/ Impact rating	The min. impact rating of the camera should be IK10. Higher rating if needed, based on the actual place of system implementation is desirable
		Surge immunity	Min. 2kV line to line, Min. 4kV line to earth (Class 4)
5	**ELECTRICAL**	Input Voltage / Current	The camera should be compatible to work with any kind of input source available. It should be able to operate with PoE/VAC/VDC/ any other latest mode of power sources available in the industry. The input voltage/current should be as is appropriate for the functioning of the camera.

		Power Consumption	The camera should be able to operate full blast with min. power consumption. It should be able to operate on PoE/ direct raw power supply.
6	**REGULATORY**	Safety	The camera should comply with the latest safety regulatory norms as listed by national & international organizations in the industry UL, CE
		Outdoor installation	EN60950-22, IEC60950-22
		Electromagnetic compatibility (CE)	EN610000-6-4, EN50130-4, EN55022 (Class A), FCC Part 15 (Class A)
		Photo biological safety (CE)	EN62471
7	**STORAGE**	Media	There should be built-in SD card slot. The camera should support all types of SD card format (SD/SDHC/SDXC/ any other latest technology card slot) available Min. capacity of the card should be the max. available on SD card format.
		Capacity	The min. storage capacity should be 1TB. Higher the capacity, more preferable.
		Automatic recording/ Auto transfer/ Auto clean	In case the network fails the camera recording should automatically switch to local SD card recording available in the camera. Once the network is up & running, the recorded data in SD card should automatically start transmitting to the main storage location and then, once all data has been transferred completely, the SD card should be ready for recording in full capacity in case of another such network failure event.

iv. Outdoor housing for outdoor cameras

Sl No	Item	Features	Specifications
	Camera Housing	Industrial grade	Yes
		Certification	Min. IP66, IK10, NEMA
		Operating temperature	(-)10 deg.C to (+)70 deg.C
		Humidity	20-90% relative humidity(non-condensing)
		Weather proof	Extreme weather protection enclosure
		Automatic wiper	in-built automatic wiper in case of rain or water sprayed on the housing, the wiper should automatically wipe off the water,
		Automatic cooling facility	in-built automatic cooling fan/ provision to incorporate cooling fan which will cool the equipment inside the camera housing in case the temperature gets too high. There should be a provision to configure the temperature threshold beyond which the cooling should automatically start. Once the desired cooling level is achieved, the cooling system should stop.
			Equipped with min. IP68 cable glands, pre-fitted spare terminal and fuse block
			Adjustable sliding camera tray & sealed cable entry glands
			Suitable for indoor/outdoor installation, user friendly
			Fire proof
			Lightening proof
			Surge proof from any source (electrical, network, etc.)
			Safety/Quality Approvals FCC, CE, ROHS, REACH, IP67, IK10

			Fully cable management bracket
			AC90~230V±10% or AC24V±10% PSU (Optional)
			AC or DC single or dual heater
			DC12V cooling blower & heater optional
			Impact resistance IK10 according to EN 62262
			Standard accessories sunshield and heater; optional camera power supply

v. Surge Protector

Sl No.	Specifications	
1	Operating Voltage: 5 VDC	5 VDC
2	Clamping Voltage: 90 VDC (Spark Over Voltage)	90 VDC(Sparks over voltage)
3	Operating Current: 1A	1A
4	Peak Surge Current: 10 kA (8 x 20µs)	10 kA(8 x 20us)
5	Frequency Range: 0 to 1 GHz	0 to 1 GHz
6	Insertion Loss:	< 0.5 dB at 500 MHz
		<1.0 dB at 900 MHz
7	SPD Technology	Gas Discharge Tube (GDT)
8	Connection Type	BNC, 75 Ohm
9	Operating Temperature	-40°C to +85°C
10	Dimensions (Inches)	0.6H x 0.6W x 2.0L

vi. Outdoor Junction box

Sl No	Specifications	
1	Purpose	UPS, MC, Surge protector
2	Industrial grade	Yes
3	Conformance	Min. IP66
4	Compliances	RoHS,
5	Size	800H x 400W x 300D
6	Accessories	Toughened glass window in the front door
		Document pocket
		wide range of terminals and terminal blocks
		pole mounting clamps
		natural and forced fan filter cooling solutions
		Customized cut outs on door, mounting plate
		bolted cable entry gland plate at the bottom
		CFL light
		stainless steel studs for grounding
		2mm thick mounting plate

vii. Rack server with monitor

Sl. No.	Item Description	Detailed Specification
	Approved Make	**HP**
1	Processor	Single Processor Populated, expandable to 2 Sockets
		Intel Xeon E5-2430 6 core processor/higher

		Processor Speed: 2.2 Ghz or Higher
2	Motherboard, Chipset	Server M/B based on associated chipset
3	Memory	16 GB DDR-III 1066 MHz or higher SDRAM Memory with ECC expandable up to 96 GB/higher
4	Video Controller	Integrated Graphic controller
5	HDD Controller	SAS RAID Controller supporting RAID 0, 1 & 5
6	Network Controller	4 X 1 Port Ethernet controller (10/100/1000Mbps)/Higher ,IPV6 Ready
7	Ports	4x USB 2.0 ports, 1xKeyboard port, 1xMouse port
8	Storage	4x450GB SAS Hot swap HDD (10K rpm or higher)
10	Optical Drive	Internal DVD Writer
11	Display	TCO-05 certified 18.5" wide TFT monitor
12	Keyboard & Mouse	OEM keyboard & OEM optical two button scroll mouse.
13	Power Supply	Redundant Power Supply
14	Driver/ Software Utility	System utilities with all required device driver software
15	Form Factor	Rack(2U)
16	OS Required & Certification	Windows/ Linux OS (32Bit & 64Bit both)
17	System Management	Remote Management of Server , Pre-failure Alert (Processor, RAM, HDD) & Server Management Software
18	Warranty	3 years on site comprehensive warranty

viii. Desktop PC with pre-loaded OS

Sl No	**Technical Specifications**	
	Components	**Min. Specifications**

	Approved Make	HP/ DELL
1	Processor	Intel Core i5, 5th Generation
2	OS	Windows 7 pre-loaded as specified with media & documentation & certificate of authenticity
3	Chipset	Q8 Series
4	Cache	6MB or higher version
5	Bus Architecture	3PCI (PCI/PCI Express) or more
6	Memory	8GB, 1600MHz DDR3 RAM with 32 GB expandability
7	HDD	1 TB 7200 rpm/ higher
8	Monitor	24 inches or larger TFT/LED digital colour monitor TCO-05 certified
9	Keyboard	104/107 keys
10	Mouse	Optical with USB interface
11	Bays	4 nos. or above
12	Ports	6 USB ports or more (at least 2 nos. USB with 3.0), 1 no. Display port/VGA port, Audio ports for microphone & headset in front
13	Cabinet	Mini Tower
14	DVD ROM Drive	8X or better DVD RW Drive
15	Networking facility	10/100/1000 on board integrated network port with remote booting facility, remote system installation, remote wake up, TPM enabled 1.2 chip using any standard management software
16	Power Management	Screen blanking, Hard disk & system idle mode in power on, set up password, power supply SMPS surge protected
17	Antivirus	Pre-loaded Microsoft Security Essentials software
18	Warranty	3 years on site comprehensive warranty

ix. 24 port L3 managed switch

Sl. No.	Item Description	Detailed Specification
	Approved Make	**CISCO**
1	Ports	24 RJ-45 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+)
		4 SFP 100/1000 Mbps ports
		Auto sensing/ Auto negotiating Ports
		IPV6 Ready
2	Performance	Should have wire speed Switching Capacity
3	Standards & Protocols	General: IEEE 802.1AX Link Aggregation, IEEE 802.1D MAC Bridges, IEEE 802.1p Priority, IEEE 802.1Q VLANs
		IEEE 802.1s Multiple Spanning Trees, IEEE 802.1v VLAN, IEEE 802.3af and 802.3at Power over Ethernet, IEEE 802.3x Flow Control, QoS: 802.1p (CoS), Security: IEEE 802.1X Port Based Network Access Control
4	Management Features	command-line interface; Web browser; configuration menu; out-of-band management; SNMP Manager; Telnet; RMON1;
5	Warranty	Min. 3 years on site comprehensive warranty

x. Media Converter (SC/LC fiber)

Sl No	Specifications	
1	Function	LAN to Optical fibre & vice-versa

2	Type	Industrial Grade
3	Operating temperature	(-)10 deg. C to +70deg.C
4	Mounting Kit	Included
5	Connectivity Technology	Wired
6	Cabling Type	Ethernet 1000Base-LX, Ethernet 1000Base-T, Ethernet 100Base-TX, Ethernet 10Base-T
7	Data transfer rate	1 Gbps
8	Data link protocol	Ethernet, Fast Ethernet, Gigabit Ethernet
9	Compliant standards	IEEE 802.3, IEEE 802.3ab, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z
10	Status indicators	Link activity, Power, Transmit
11	Features	Auto Cross, Link Fault Pass Through function (LFP), auto-negotiation
12	Warranty	Min. 3 years on site comprehensive warranty

xi. 24U, 19 inches floor standing rack

Sl. No.	Components	Specifications
1	Features	Floor standing rack
		Conforms to DIN 41494 - or current industry practices
		Load rating of 600 Kgs(min.)
		Fine styling, plus economy
		Steel doors - plain, vented at bottom, fully perforated and/or dual perforated
		Glass doors - with optional vented side trims for front-to-back air flow
		Powder coated finishing.(Steel doors & side trims for glass

		door should be powder coated)
2	Size	Height - 24U
		Width - 600mm(min.) usable
		Depth - 1000mm(min.) usable
3	Material & Finish	Vertical pillars of the frame should be of aluminium. All other parts should be of sheet steel.
4	Accessories	Front door with toughened tinted glass with lock & key facility
		Rear steel doors with perforations
		Stationary & sliding shelves
		Cantilever shelves
		Equipment support angles
		Single fan tray with 4 fans(min.)
		3 nos. of 1U cable managers(min.)
		15 point AC distribution box with On/Off button(min.)
		Cable entry provision at the top and bottom
		Earthing kit
		Castors with foot-operated brakes

xii. 0.6 KVA interactive UPS with batteries

Sl No.	Features	Technical Specifications
1	Technology	600 VA with built in automatic voltage regulator, DG Set Compatibility
2	Capacity	600 VA
3	Input	2.1 Voltage Range 145-280 Volts or better 2.2 Frequency Range 50 Hz +/- 10%

4	Batteries	3.1 Type SMF12 V of 7AH type Leak Proof of reputed make 3.2 Backup Time Minimum 20 minutes on for a standard PC (15" TFT Monitor)
5	Output	4.1 Voltage 220Volts 4.2 Waveform Modified / Simulated / quasi Sine wave 4.3 Transfer Time Less than 10 millisecond 4.4 Sockets Total 3 Nos., with surge protector 4.5 50 Hz +/- 10% Hz (under battery mode) 4.7 Power Factor 0.6
6	Protection	5.1 Low Battery 5.2 Overload Protection to be present 5.3 Overcharge 5.4 Overvoltage
7	Environment	Temperature: (-)5 deg. C to +70 deg C; Humidity: upto 90%
8	Display	Mains, Battery mode & Load on Mains/Battery
9	Warranty	Min. 3 years on site comprehensive warranty on device & 1 year on Battery
10	Agency Approvals	ISO-14001 / ISO-9001 and CE
11	Credentials	The OEM should have their own office & Sevice Center in Odisha The Technical Catalogue of the Product should be available in the OEM's Web Site OEM to have 24X7 Toll Free Call Service Facility

xiii. 5 KVA online UPS with batteries

Sl No.	Features	Technical Specifications

1	Capacity	KVA / wattage	5KVA/4000 W or higher
2	Design		IGBT based True online double conversion design
		Nominal Input Voltage	208/220/230/240V
		Nominal Input Frequency	50Hz with range of 46 - 54Hz
3	Input	Power Factor	≧ 0.99 at 100% Load
		Nominal voltage regulation	1%
		Charging current Capacity	0.5 Amps to 6 Amps (Settable)
		Battery back Up	60 Minutes
		VAH Require	8064 or Higher
4	Output	power factor	0.8
		Nominal Output voltage	208/220/230/240VAC
		Output Frequency	Frequency Range (Batt. Mode): 50 Hz ± 0.1 Hz ; Frequency Range (Synchronized Range): 46Hz ~ 54 Hz @ 50Hz system
		Output Waveform	Pure sine wave
		Total Harmonic distortion (THD)	<=3% for Linear load & <=7% for Non linear load
		Dynamic response	IEC62040-3 Classification 1
		Crest factor	3:1
		Overload Capacity	AC mode:100%~110%: 10min、110%~130%: 1min、>130% : 1sec ; Battery mode: 100%~110%: 30sec、110%~130%: 10sec、>130% : 1sec

4	Output	Frequency synchronization Band for Static. Bypass	46 - 54Hz
		Transfer (Inverter to Bypass)	0 ms
		Retransfer (Bypass to Inverter)	0 ms
		Automatic Bypass	Inbuilt
		Inverter Efficiency (DC to AC)	AC mode : > 93% ;
		Overall efficiency (AC to AC)	>=91%
		Humidity	<95 % and non-condensing
5	display	Input voltage	Indications are in the form of LED's- Battery LED, Inverter LED, Bypass LED, Line LED, Fault LED; ALSO 5 LED;s are for indicating the LOAD % during Mains mode, and Battery charge status during Battery Mode.
		Battery voltage	
		Output voltage	
		Output current	
		Output frequency	
		Input Frequency	
		Heat sink temperature	
		Fault indicated on Digital Display Alarms	LED indication display
		input fail	Inbuilt and accessible on LCD Display.
		Battery Low	
		Transfer to bypass and system fault	
		LED Indications	
5	Safety Standards and Credentials	Protection	Overload/Short Ckt/Battery Deep Discharge/Low Battery/Reverse Battery/Inverter Current

	certificates		Limitation/Over Temperature/Output Overvoltage.
		Testing standards	Safety: IEC/EN 62040-1-1
		Surge Protection standard	SURGE : IEC/EN 61000-4-5
6	Credentials	The OEM should have their own office & Service Centre in Odisha	
		Quoted products technical Catalogue must be available in OEM's Web Site	
		OEM must have 24X7 Toll Free Call Service Facility Toll Free Number to be provided	
7	Communication	SNMP or better communication port for interfacing & Remote monitoring	
8	Warranty	Min. 3 years on site comprehensive warranty	

xiv. NAS Server for Video storage (16 TB)

Sl. No.	Features	Specifications
1	No. of Storage Units	**1**
2	Rack mount	NAS Controller Should be rack mounted with a form factor of not more than 2U
3	Processor	One hex Core Intel E5 V3 1.9 GHz or higher. Processor shall have minimum of 15MB L3 cache. Shall be further scalable to at-least one more additional hex core processor.
4	Memory	16GB DDR4 RAM or higher, scalable to 96GB DDR4 RAM
5	Hard Drives	Shall be supplied with minimum of 4 X4TB drives in Raid 5.
		Offered NAS Storage shall have separate dedicated drives for Operating system
6	Storage expandability	Shall have more than 100TB external disk scalability using SAS / SAS-NL drives by providing associated hardware whenever required.

	Network Connectivity	Min. 4 X 1Gbps auto sensing NICs ports and shall be further scalable to additional 4 numbers of 10Gbps Ethernet port.
7	Protocols support	TCP/IP, ISCSI, FTP, CIFS, HTTP, NFS 4, WebDev etc.
8	Fault Tolerance	Offered NAS shall support Raid 0, Raid 1, Raid 1+0, Raid 5 and Raid 6 for additional disk enclosures. Raid controller shall have minimum of 2GB flash back write cache.
9	Network Client Types Support	Should support Windows 8, Windows 2008, 2012, , HP-UX, AIX, SOLARIS, Linux etc.
10	Manageability	Advanced interface with following
		1.Common interface for NAS management tasks like CIFS, NFS, Volume Management etc.
		2. Remote management
		3. Common interface for Multi NAS management from a single console.
11	Operating System	Microsoft Storage Server - 64 bit edition (NAS optimized) including powered OS drivers
12	De-duplication	Offered NAS shall have block based De-duplication which can be enabled for all required volumes. De-duplication engine shall have:
		1. Flexibility to decide the multiple schedules when de-duplication process can be run.
		2. Flexibility to limit the time period of de-duplication process so that production operations remain intact.
		3. Flexibility to bypass the recent files under the de-duplication process so that production operations remain intact.
		4. License for De-duplication shall be provided.
13	File screening and quota management	1. Offered NAS shall have support for file screening so that administrator can ensures that users shall not be able to store unwanted files on offered NAS device.
		2. Offered NAS shall have Quota management for both Volume and Directory.

		3. Software for both File screening as well as Quata management shall be provided.
14	File Management	1. Shall have flexibility to expire or move files to different folder / Location / Volumes / drives on the basis of polices like day of creation / modification / access of on the basis of file pattern like extension.
		2. Shall also be able to expire or move files to different folder / Location / Volumes / Drives on the basis of content classification within files.
15	SAN storage (iSCSI based)	Integrated iSCSI for block access over LAN.
16	Snapshots	Point in time copies of your data to guard against data corruption.
17	Encryption and compression	Shall have support for encryption and Compression. License for both of same shall be offered.
18	Replication	Offered NAS shall also be offered with replication License for Disaster recovery.
19	Power Supply and FAN	Offered NAS shall also have Hot Plug redundant power supply and FAN

xv. OFC Cables (Single mode, multi-core)

OFC Cable (Single Mode, multi core)		
Sl No	**Specifications**	
1	Cable Type:	Minimum Single Mode 6 (six) core Optical Fiber, 9/125^m, armored outdoor type application.
2	Outer sheath:	Polythene with minimum thickness of 1.8 mm. any colour with U.V. Resistant pigment suitable for direct exposure to sunlight
3	Standards:	OFC should be TEC approved and reputed make. The Vendor has to submit the Manufactures test reports along with OFC, Make with ISI mark.
4	Length	12 KMs Approx
5	Route indicators, Joint indicators for OFC cable to be provide	50 nos. Approx.

xvi. CAT6 Cables

CAT 6 Cable		
Sl No	**Specifiactions**	
1	Type	Unshielded Twisted Pair, Category 6, TIA/ EIA 568-C.2 & ISO /IEC 11801
2	Conductors	23 AWG solid bare copper
3	Insulation	Polyethylene
4	Jacket	Flame Retardant PVC
5	Pair Separator	Cross-member (+) fluted Spline
6	Approvals	UL Listed / UL Verified. UL hologram mark to be present on packaging.
		ETL verified to TIA /EIA Cat 6. ETL compliance certificate to be produced for CAT6 Cable.
7	Frequency tested up to	Minimum 600 MHz; ETL report to be provide for 600 MHz performance
8	Delay Skew	45ns MAX.
9	Bend Radius	4 * cable Diameter
10	Impedance	100 Ohms + / - 15 ohms, 1 to 600 MHz.
11	Propagation Delay	536 ns/100 Mtrs. MAX @ 250 Mhz
12	Performance characteristices @ 250 MHz	Attenuation: 32.8dB/100m NEXT : 44dB PS NEXT : 41dB ELFEXT :23dB PSELFEXT : 19dB Return Loss: 25.3dB ACR : 11.3dB
13	ROHS Compliant	ROHS/ELV Compliant

xvii. Patch Chords

i. Should be pre-moulded, connectorized & reputed make

xviii. 6/24 port Patch Panel

i. MRJ21 SL Series Patch Panel, Category 6, Unshielded, 24-Port, Straight, 1U, jacks bagged separately

xix. 6/24 port LIU with Couplers

i. Compatible LIU of reputed make e.g D-Link, AMP Net connect

xx. Cabling

Sl No	Cabling	Specifications

1	LAN	LAN Cabling shall include connection from and between each individual CCTV and network equipment. This will include OFC cable, CAT6, patch cords, 6/8/24 ports patch panel, 6/8/24 ports LIU with couplers, SM pigtails with SC/LC connectors, etc.
2	LAN accessories	Other necessary items like casing & capping for OFC, UTP CAT6 cables etc.
3	Power cabling	This shall include power supply to all CCTV & network equipment
4	Power cabling accessories	Other necessary items like casing & capping for electrical cabling

xxi. Pole (for outdoor cameras)

Sl No	Features	Specifications
1	Pole Location	OPTCL Grid S/s
2	Pole Height	25 mtrs from ground level
3	Type of Installation	Industrial
4	Security Features	Internal cabling
		Close fitting flush doors
		solid secure heavy duty door locks
5	General Features	Pole should be fabricated from MS, weather proof & powder coated painted.
		The door shall be weather & vandal resistant with heavy duty locks
		Should have provision of lightening arrester
		Provision for earthing
		Provision to mount the junction box at min. height of 1.25 meter from ground level for switch with lock & various cable arrangements for camera & network equipment. Vendor should supply all the mounting accessories.
6	Foundation type	Suitable to support heavy duty pole for CCTV with height 25 mtrs approx.
7	Material Protection	Hot dip galvanized as per IS 4759/BSEN-1461 min. on both internally & externally by seven tank process
8	Environment	Aerodynamic shape & mechanically strong to face wind speed of min. 150km/h (operational) & min. 200km/h (stationary)
		Withstand cyclonic storms and earthquakes

(b) **Software:**

i. Video Management System for CCTV Surveillance System

Sl No	Functional Specifications	
1	Annexure 5: Video Management Software	The Video Management and Recording software should be of enterprise grade and capable to connect up to Min. 128 cameras and should have all provisions to expand the system to any no of cameras with additional licenses if required in future. The Software should be able to stream live analytics on the clients and should have all function for post event forensic search from the recorded video data. The VMS (Video management software) and VRM (Video Recording manager) should be from the same camera OEM for full featured benefits and enhanced compatibility and after installation maintenance.
2	Video Management System Software (VMSS)	The video management system shall be client/server based IP video security solution that provides seamless management of digital video, audio and data across an IP network. The video management system shall provide full virtual matrix switching and control capability. Video from other sites may be viewed from single or numerous workstations simultaneously at any time. Cameras, recorders, and viewing stations may be placed anywhere in the IP network.
3	Video Management System	A. The video management system (VMS) specified shall be a centrally managed, scalable based architecture that allows full virtual matrix switching and control systems.
		B. The VMS shall be designed to use a facility's existing IT infrastructure and require no special cabling.

		C. The VMS shall provide a built-in command script editor that allows customized command scripts to be written to control virtually all the system functions. Command scripts may be activated by system operators or automatically in response to alarms or system events. The built-in command script editor shall support C# and VB.NET.
		The VMS shall provide up to 10 different and independent programmable recording schedules. The schedules may be programmed to provide different record frames rates for day, night, and weekend periods as well as special days. Advanced task schedules may also be programmed that could specify allowed logon times for user groups, when events may trigger alarms, and when data backups should occur.
		The VMS shall allow the establishment of user groups that have access rights to specific cameras, priority for pan/tilt/zoom control, rights for exporting video, and access rights to system event log files. Access to live, playback, audio, PTZ control, preset control, and auxiliary commands shall be programmable on an individual camera basis.
		The VMS shall support Dual Authorization logon. It shall function as follows:
		a. Dual Authorization user groups may be created.
		b. Logon pairs, consisting of any two normal user groups, may be assigned to each Dual Authorization user group.
		c. A separate set of privileges and priorities can be assigned for each Dual Authorization user group.
		d. For each user group assigned as part of a logon pair, it shall be configurable whether the

		group can:
		- Log on either individually or as part of the logon pair
		- Or log on only as part of the logon pair.
		e. If a user that is part of logon pair logs on individually, then he shall receive the privileges and priorities of his assigned user group. If the same user logs in as part of a logon pair, i.e. being authorized by the second user, then the user shall receive the privileges and priorities assigned to the Dual Authorization group to which the pair is assigned.
		f. The logbook shall log the log on procedure to identify a single user or a dual authorization log on. Subsequent user actions shall be logged as the actions of the first user.
		The VMS workstations may be connected to up to 4 monitors where each monitor may be configured to display live streaming video, playback video, site maps, or alarms.
		The VMS shall support Lightweight Directory Access Protocol (LDAP) that allows integration with enterprise user management systems such as Microsoft Active Directory.
		The VMS shall export video and audio data optionally in ASF format to a CD/DVD drive, a network drive, or a USB drive. The exported data in ASF format may be played back using standard software such as Windows Media Player.
		The VMS shall export video and audio data optionally in its native recording format to a CD/DVD drive, a network drive, or a direct attached drive. The exported data in native recording format shall include all associated metadata. Viewer software shall be included with the export. Once installed, the viewer software allows playback of the streams on any compatible

		Windows PC.
		The VMS shall auto-discover IP devices with their default IP addresses, and allow auto-assignment of unique IP addresses.
		The VMS shall support continuous operation during Central Server down-times as live viewing, playback of recording and export of video data. The Operator Client shall indicate its connection status to the Central Server.
		The VMS shall be designed in such a way that configuration changes to any part of the system shall not interrupt operational tasks, until the operator decides to update re-fresh the workstation configuration.
4	Video Management System Components	A. Central Server software shall provide management, monitoring, and control of the entire system. The central server software should typically be installed on a server-class computer, but may be installed, with all the other video management software modules on one workstation. The Central Server shall also maintain data stream management, alarm management, priority management, central logbook, central configuration and user management.
		The VMS software shall provide recording and playback management of video, audio, and data. The VMS software shall configure the streaming parameters of the assigned devices. The VMS software shall administer the data on the connected hard disk drives.

		The VMS shall be designed in such a way the Central Server downtimes do not affect the functionality of the recording services. Normal recording and Motion recording shall continue during the Central Server downtimes, only Alarm Recording cannot be activated as the Central Server is responsible for evaluating the alarm conditions. During Central Server downtime the recording services shall still be able to change the recording parameters schedule dependent.
5	Recording Manager System Software	The video management system shall be capable of managing multiple recording manager systems.
		It shall be possible to assign encoders and IP cameras to recording manager.
		The recording parameters shall be configured in the recording tables of the VMS configuration program. These settings will be replicated into the devices from the Central Server.
		The recording manager shall manage encoders and IP-Cameras, and the Network attached storage systems. It shall offer system wide recording monitoring and management of Network Attached storage, video servers and cameras.
		The recording manager shall support the encoders and cameras to directly stream the data to the Network attached storage.
		The transfer rate of the data from the encoder or IP-Camera is limited by network speed and the Network Attached Storage data throughput rate.
		The Recording Manager shall be able to restore a lost recording database from data on the Network attached storages.
		The Recording Manager shall provide flexible retrieval of recordings. It shall be able to determine on which network attached disk array data from each camera or encoder has been stored.

		It shall be possible to secure the access to the Recording Manager software with a password. This shall be done in the Configuration Client.
		J. The Recording Manager software shall provide status monitoring information as a web interface. The following information shall be provided:
		Uptime of the Recording Manager software
		Bit rate information for the recorded data
		Retention times per camera
		Status on recording and storage
		The video management system shall allow configuring if playback of recordings is streamed through the Recording Manager or is streamed directly from the Network attached storage.
		The video management system shall support to retrieve the playback information, i.e. from which iSCSI storages to retrieve the video, audio and meta-data, either from the Video Recording Manager or directly from the IP encoder or camera. Playback information directly from the IP encoder or camera is limited in time and should be used while the Recording Manager is not available to increase the reliability of the video management system.
6	Alarm Management Capability	The video management system shall provide the capability to allow alarms to be schedule-dependent.
		The video management system shall allow alarms to be individually allocated to specific user groups for processing.
		The video management system shall be programmable to selectively, per alarm and per user group, automatically pop-up the alarm video.

		The video management system shall support display of alarm video in a special Alarm Image Window so users do not have to search their display screens to find the alarm images.
		The video management system's Alarm Image Panes shall be configurable to display live video, playback video, text documents, site maps, HTML files, or web sites (URLs). Per alarm one playback video and one site map can be configured.
		The video management system's Alarm Image Pane rows shall be displayed in order of their priority, with rows for higher priority alarms always displayed above lower priority alarm rows. The display order for equal priority alarms shall be selectable between new alarms displayed above existing alarms, or new alarms displayed below existing alarms.
		The video management system shall provide an alarm reaction time of maximum 2 seconds when sufficient network bandwidth is available.
		The video management system shall distribute alarm notifications, via entries in the alarm list of the operator user interface, to all members of the user groups to which the alarm is assigned. The alarms shall appear in all said users' alarm lists.
		The video management system shall operate as follows: when an alarm is accepted by a user, it shall be removed from the other users' alarm lists.
		The video management system shall allow a user to un-accept an alarm he has previously accepted. In this case, the alarm shall re-appear in the alarm lists of all members of the user groups assigned to this alarm.

		The video management system shall support the association of workflows with alarms. Workflows shall consist of action plans and comment boxes. An action plan shall display a text document, HTML page, or web site that typically contains instructions for handling the alarm. Comments entered in the comment boxes shall be logged in the system logbook.
		The video management system shall be configurable to force an alarm workflow. In this case, the alarm cannot be cleared until the workflow is processed.
		The video management system shall offer the possibility to automatically clear alarms when the originating event condition is no longer true.
		The video management system shall allow alarms to be configured to send PTZ cameras to prepositions or to execute camera Aux commands on occurrence.
		The video management system shall be configurable to put any IP-connected camera into alarm recording mode on alarm occurrence.
		The video management system shall be configurable to send an e-mail or SMS message in response to an alarm.
		As new alarms are received, alarm rows shall stack in priority order on the analog monitors.
		The VMS shall support for alarms to display video on multiple analog monitor groups, with configurable assignment of individual assignment of alarms to monitor groups.
7	Logbook	The system shall protocol every event and alarm in an SQL database. The alarm entry shall contain the camera titles that have been recorded due to this alarm.

		The logbook shall be able to store at least 500,000 entries per hour. If the capacity of the logbook is filled up the oldest entries will be deleted to create space.
		The user shall be able to search the logbook for events and alarms. The user shall be able to export the search results into a comma separated value list (CSV).
		The system shall include and install a ready-to-use SQL database. The system shall optionally allow the usage of a separately installed SQL database.
8	Pre-Programmed Camera sequences	The video management system shall support pre-programmed camera sequences. These sequences will allow cameras to be automatically displayed on the computer image panes and/or analog monitors connected to decoders. The sequences shall support simultaneous display on multiple image panes or monitors. The sequences shall also support camera prepositions for each PTZ camera on each sequence step. The system shall be configurable such that operators can select these sequences from the logical tree or a site map.
9	Command Scripts	The system shall be configurable such that operators can execute the created scripts by double-clicking on representative icons in a logical tree or site map.
		The system shall be configurable such that the created scripts can be executed automatically in response to a system event. The automatic event-driven execution shall optionally be schedule-dependent.
		The system shall be configurable to execute a user-group dependent command script on user logon.
		The system shall be configurable to execute an alarm-dependent command script on user acceptance of the alarm.

10	Configuration Changes	Configuration changes made in the VMS Configuration Client shall modify a working copy of the configuration, and shall not affect the active operating configuration.
		It shall be possible to activate the working copy through a user action in the Configuration Client, at which point the working becomes the new active operating configuration.
		It shall be possible to set a date and time in the future at which the working copy becomes active.
		It shall be possible to view a list of all configuration activations that have been applied to the system. It shall be possible to select any of the activated configurations, and have the system "roll back" to an earlier configuration.
		It shall be possible to activate a configuration and leave it to the operator to refresh the configuration locally instantly or at a later point in time. It shall be possible to enforce configuration activation for every Operator Client connected to the Central Server.
11	Operator Client	The video management system shall provide an administrator-configured Logical Tree. The logical tree shall be freely configurable with any tree structure, with nodes consisting of folders or maps, and leaves consisting of devices (cameras, inputs, and relays), sequences, documents, URLs, or command scripts. Each user group shall only see items in the logical tree for which the administrator has granted access.
		The user shall be able to search the logical tree for item names.

		The video management system shall provide a user-dependent Favourites Tree. The Favourites tree shall allow maps, folders, and devices and complete views (image pane patterns with camera assignments) to be configured by each user in a user-defined structure. The user's favourite's tree shall be available irrespective of the computer with which he logs on to the system.
		The video management system shall provide an Image Window that displays a collection of Image Panes. The layout shall be optimized for standard and widescreen monitors. With standard monitors the number of image panes per image window shall be variable between 1 (a single full-window video) and 25, arranged in a 5x5 grid. A slider shall be available allowing the grid size to be changed from 1x1, 2x2, 3x3, 4x4, and 5x5. With widescreen monitors the number of image panes per image windows shall be variable between 1 and 30, arranged in grids of 1x1, 3x2, 4x3, 5x4, and 6x5. The VMS shall allow image panes to be enlarged or decreased in size within the grid. E.g., in a 5x5 grid, a single image pane can be enlarged to use 4 of the grid elements, creating a larger image within the grid. Any pattern can be created within the grid structure. An image pane can be resized by clicking and dragging on any corner, dragging the corner to the desired size.
		The video management shall implement the concept of a selected image pane. The selected image pane shall be highlighted. There shall always be a selected image pane in the Operator Client application. The selected image pane is always used for control commands, e.g. PTZ control, instant playback control, and audio replay.
		The video management system shall support the audio channels of the encoders and IP cameras. It shall be possible to assign audio sources to cameras. In the Operator Client it shall be possible

		to turn on/off the replay of the audio per camera.
		The video management system shall support two different audio modes, single source audio and multi-source audio.
		In single source audio mode only the audio source assigned to the camera in the selected image pane is replayed.
		In multi-source audio mode all audio sources of the cameras displayed in the client application are replayed.
		The video management system shall support site maps with hot-spot icons for devices (cameras, relays, and inputs), command script initiation, camera sequence initiation, and links to other site maps. The site maps shall be capable of being zoomed. The hot-spot icons shall be configurable to optionally display the device name or link title.
		The Operator Client shall display live streams from Cameras. For IP-cameras and encoders it shall be possible to configure per workstation and individually per camera which encoding stream (Stream 1 or Stream 2) of these devices shall be displayed.
		The video management system shall support automatic sequencing. It shall be possible for users to multiple-select cameras (control-click or shift click), and drag the multiple-selection to an image pane or a graphic representing an analog monitor connected to a decoder. All of the cameras in the selection shall then sequence in the image pane or monitor at a user-selectable rate. It shall also be possible to drag a folder to an image pane or analog monitor. In this case, all of the cameras contained within the folder shall sequence.

		The video management system shall support PTZ control with a dedicated graphical joystick control, supporting Pan, Tilt, Zoom, Iris, Focus and Aux Command operations. It shall also support PTZ control via clicking the mouse in the image panes. For PTZ cameras, the cursor shall change to indicate the Pan/Tilt direction when hovering over the corresponding image pane. The Pan/Tilt speed shall increase as the cursor moves farther from the center of the image pane. An area in the center of the image pane shall be used for zoom-in/zoom-out control. Once zoom is initiated, the zoom speed shall increase as the cursor is moved farther from the center of the image pane.
		The video management system shall support digital zoom of any image pane. A dedicated graphical control shall be provided in the user interface for this purpose. In addition, the mouse wheel shall control digital zoom when the mouse cursor is hovering over a selected image pane.
		The video management system shall provide an Instant Playback function that displays recorded images on one or multiple image panes. Recorded images from a single camera may also be played back on multiple panes. Instant playback supports pause, play forward, play reverse, single step forward, single step reverse, fast-forward, and fast-reverse.
		The video management system shall support a timeline that provides a graphical overview of video stored on the disk. The timeline shall display a timescale that can be adjusted from at least 15-minutes per division to 1 month per division. For each camera displayed in playback mode, the timeline shall provide a line that depicts the video storage for that camera. The line shall be color-coded to show if video is recorded for the displayed time period, and if so, if it is normal recording, motion recording, or alarm recording. The line shall be cross-hatched if the video is protected from deletion. The line shall also

		indicate if associated audio is recorded during the displayed time period.
		For VRM and Local Storage recordings colour coding is limited to protection and audio indication.
		The video management system shall support simultaneous time-synchronous playback of up to 16 cameras. Playback shall support single-step forward and backwards; play normal speed forward and backwards; play high-speed forward and backwards; and play slow-speed forward and backwards.
		The video management system shall support searching based on any combination of time/date-rage, event type(s), alarm priority, alarm state, and device(s). It shall be possible to save and recall search parameters.
		The video management system shall graphically display device states on its icons in the logical tree structure and on sitemaps. For cameras, the states shown shall include: loss of the analog video signal, network connection loss, video recording, video signal too noisy, video signal too bright, video signal too dark, video de-adjusted, and video includes associated audio. For relays and contact inputs, the open or close state shall be indicated.
		The video management system shall support an indication for the Operator Client regarding the connection state to the Central Server. This shall include connected, disconnected, and configuration out-of-sync between Central Server and Operator Client.

		The video management system shall support a centrally stored user profile to store settings individual for each operator. These settings shall include but are not limited to sequence dwell times, instant playback replay time and image pane ratio settings (16:9 or 4:3) individually per monitor. These settings shall be available independently of the physical workstation to the operator.
12	CCTV Keyboard Support	When CCTV Keyboards are connected to Operator Client Workstations, it shall be possible to control PTZ operation of the selected cameras and to control set and call-up PTZ prepositions of the selected camera using the keyboard joystick.
		When CCTV Keyboards are connected to Operator Client Workstations, it shall be possible to control playback of video, including both Instant Playback and Playback-mode synchronous playback, using the CCTV keyboard.
		When CCTV Keyboards are connected to Operator Client Workstations, playback control should include jog-shuttle emulation using the Keyboard Joystick.
13	Intelligent Video Analytics and forensic search	The video management system software shall support search of recorded video with at least the following criteria: object size, object color, direction, and speed as well as detecting objects entering or leaving designated areas. This Intelligent Video Analysis (IVA) based post-recording search will work for cameras recorded by VRM and Local Storage. (Please refer to detailed IVA specifications)
		The video management system shall optionally display the information of the video analytics such as cells with detected motion, object masks, and trajectories in live and playback
14	Approved Make:-	BOSCH/ HONEYWELL/ PELCO/SONY/AXIS

ii. Intelligent Video Analytics software

The IVA should be directly built into the cameras such that there is no need for extra hardware or software. The IVA should ensure live alarm to the clients as per the defined rules.	
SL	**Parameters of Intelligent Video Content Analytics**
1	Analytics Should may be embedded directly into the IP Cameras or VMS software that eliminates the requirement of extra hardware
2	It should intelligently adapt to difficult conditions like changes in lighting or environment such as rain, snow, clouds, and blowing of strong wind.
3	IVA should have Tamper detection that generates alarms on camera hooding/masking, blinding, defocusing, and repositioning
4	Image stabilization to ensure detection even with shaky video sources such as cameras mounted on poles or simple vibrations.
5	Detect objects entering, leaving, or just being within an area (detector field)
6	Loitering detection in an area related to radius and time parameter
7	Detection of idle objects within a configurable time span
8	Detection of removed objects within a configurable time span
9	Detecting the trajectories/routes of objects, passing in the scene, displayed with tracking lines
10	Detect multiple line crossing from single line up to three lines combined in a logical row (Tripwire)
11	Detection based on some conditional change in properties such as size, speed, direction, and aspect ratio change within a specified time span (for example something falling down)
12	Detect heads within a configurable area (Head Count in any gathering) and generating alarm
13	Detect flow of a constant moving object
14	Detect object that moves against a flow of objects i.e. Counterflow detection or wrong direction detection

15	Detecting a certain crowd level or unrequired people gathering in a predefined field and generating alarm
16	The IVA should provide Interactive GUI for easy configuration
17	It should have a capability for min. eight independent tasks selection that can be combined in the scene to build sophisticated detection rules, each one individualized with its own parameters

E. SECTION-V

1. Forms and Schedules etc.

I. SCHEDULE-A

(a) **BID FORM**

To:

Chief General Manager (IT),
Odisha Power Transmission Corporation Limited
3rd Floor, OPTCL Tower, Janpath,
Saheed Nagar, Bhubaneswar- 751 022

Ladies and/or Gentlemen,

Having examined the bidding documents, including addenda nos. …… ……. (insert numbers), the receipt of which is hereby acknowledged, we, the undersigned, offer to supply and deliver the equipment, accessories & associated services under the Contract "**IP Based CCTV Surveillance System"** in conformity with the said Bidding Documents for the sum of _____ _____ (Total Bid Amount in Words and Figures) or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our bid is accepted, to deliver the goods in accordance with in the stipulated delivery period as mentioned in the bidding documents.

If our bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to 10% (ten per cent) of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this bid for a period of 180 days from the date fixed for bid opening under Clause - 4 "General Instruction to Bidders", and it shall remain

binding upon us and may be accepted by you at any time before the expiration of that period.

Until a formal contract is prepared and executed between us, this bid, together with your written acceptance thereof and your Notification of Award, shall constitute a binding Contract between us.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

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

Dated this.....day of .....20.....

Signature .....
in the capacity of ..... duly authorized to sign for and on behalf of……
……
……

(IN BLOCK LETTERS)

II. SCHEDULE-B

(a) MANUFACTURER'S AUTHORISATION FORM

[See Clause 9 (d) of the General Information to Bidders.]

No. _____
Dated _____
To:
The Chief General Manager (IT),
Odisha Power Transmission Corporation Ltd.,
3rd Floor, OPTCL Towers,
Janpath, Saheed Nagar,
Bhubaneswar - 751 022.
ODISHA

IFB No. _____

Dear Sir,

We [_____name of the Manufacturer_____
] who are established and reputable manufacturers of [_____name and/or description of the goods_____] having factories at [_____address of factory_____] do hereby authorize[_____name and address of Agent_____] to submit a bid, and subsequently negotiate and sign the Contract with you for the goods manufactured by us against the above IFB.

We hereby extend our full guarantee and warranty as per SCTION-III.(1).(XXVII) of the General Conditions of Contract for the goods and services offered for supply by the above firm against this Invitation for Bids (IFB).

_____

[Signature for and on behalf of Manufacturer]

[Name]

[Name of the Manufacturer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its bid.

III. SCHEDULE-C

(a) **Bidder's Name & Address:**

(b) **PRICE BID FOR IP Based CCTV Surveillance System Equipment/ Commissioning:**

Sl. No	Description	Country of Origin	Qty. (Nos.)	Unit of Measurement	Unit Price ex-works/ex-warehouse /ex-showroom /off the self	Unit Packing and forwarding charges	Excise duty, if any,	Sales taxes /VAT payable, if Contract is awarded	Unit cost of Freight in Rs.	Insurance in Rs.	Entry Tax	Unit Price (Col. 6+7+8+9+10+11+12)	Unit CAMC price for 3 yrs including Service tax
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	Outdoor PTZ Camera												
2	Outdoor Fixed Camera												

3	Indoor Dome camera												
4	Outdoor Housing for Cameras												
5	Surge Protector												
6	Outdoor Junction Box												
7	Rack Server with monitor												
8	Desktop PC with pre-loaded latest OS												
9	24 port L3 Managed switch												

10	Single mode media converters (SC/LC fiber)												
11	24U, 19inches, floor standing rack												
12	0.5KV interactive UPS with batteries												
13	5KVA Online UPS with batteries												
14	NAS Server for video storage(16 TB)												

15	OFC Cable(Single mode, multi core)												
16	CAT 6 Cable												
17	Patch Chords (7/10 ft.)												
18	6/ 24 Port Patch Panel												
19	6/ 24 Port LIU with couplers												

20	Other necessary items like casing & capping for OFC, UTP CAT6 cables etc.												
21	Electrical Cabling												
22	Other necessary items like casing & capping for electrical cabling												
23	Poles (Outdoor cameras)												

24	Installation & Commissioning Cost												

(c) If CAMC not available for any item(s) in the Sl No. from 1 to 24 please mention N/A against the item, purchaser has the right to enter or not enter CAMC for the listed items after warranty:

1.	2.	3.	4.
Sl. No.	**Description**	**Unit Landing Cost including CAMC in INR**	**Total Landing Cost including CAMC in INR**
1			
2			
3			
4			
5			
6			

7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			

23			
24			
Total			

(d) **Note:**

i. In case of discrepancy between unit price and total, the unit price shall prevail.

ii. Continuation sheets of like size and format may be used as per the Bidder's requirement and shall be annexed to this schedule.

iii. @ The price shall include all custom duties, sales and other taxes already paid or payable on the components and raw materials used in the manufacture or assembly of the item, or the custom duties and other taxes paid on previously imported item offered ex-warehouse, ex-showroom, or off-the-shelf. These factors should not be entered separately.

Date:……. (Signature) .....

Place: ……..... (Printed Name) .....

(Designation) .....

(Common Seal) .....

IV. SCHEDULE-D

(a) IP Based CCTV Surveillance System

i. General Information

All individual firms bidding for the package are requested to complete the information in this form. Nationality information to be provided for all owners or Bidders who are partnerships or individually owned firms.

Where the Bidder proposes to use named subcontractors for critical components of the works or for work contents in excess of 10 percent of the bid price, the following information should also be supplied for the specialist subcontractor(s).

1.	Name of firm	
2.	Head office address	
3.	Telephone.	Contact
4.	Fax	Telex
5.	Place of incorporation/registration	Year of incorporation/registration

Nationality of owners		
	Name	Nationality
1.		
2.		
3.		

ii. Capability Statement

1.	Name of Bidder	
2.	Classifications (1) Manufacturer (2) Authorized Agent (3) Dealer (4) Others (please specify)	
3.	Factory/Works: (a) Location (b) Description, Type and size of building (c) Is property on lease or free hold? If on lease, indicate date of expiry of lease in such case (d) Details of plant and facilities for manufacture/assembly of the goods	

4.	Type of equipment manufactured and supplied during last three years.		
Name of equipment	Capacity/Size	Nos. manufactured	Nos. of orders on hand

5.	Types of equipment supplied during last three years other than those covered under 4 above.			
Name of equipment	Capacity, size & model	Name of Manufacturers & country of origin	Total nos. supplied in India	Nos. on orders on hand

6.	Turnover for similar equipment sold in last three years (in Indian Rupees)			

7.	Details of Testing facilities available a) List testing equipment available b) Give details of tests, which can be carried out on items offered. c) Details of testing organization available	
8.	Personnel/Organization: (Give Organization chart for following indicating clearly the Nos. of employees at various levels)	
	1. Quality Assurance 2. Production 3. Marketing 4. Service 5. Spare parts 6. Administrative	
9.	Nearest service centres to each of the destination installations: Location: Phone No.: Year of Establishment:	
10.	Details of Organization at Service Centre a) No. of skilled employees: b) No. of Unskilled employees: c) No. of Engineering employees d) No. of Administrative employees e) List of special repair/workshop facilities available f) Storage space for spare parts (sq. m.) g) Value of minimum stock of spares available at all the service centres in respective currency h) Value of the modes/types by number of equipment serviced by the centre in last two years	
11.	Names of three buyers to whom similar equipment was supplied in the past and to whom reference may be made by the Purchaser regarding the Bidder's technical and delivery ability.	

	(1)	
	(2)	
	(3)	

iii. Financial Capabilities

Name of Bidder:

Bidders shall provide financial information to demonstrate that they meet the requirements stated in the Instructions to Bidders. Each Bidder must fill in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets should be attached.

Name of Banker	
Address of Banker	
Telephone No. Fax No. Contact Name & Title	

Summarise actual assets and liabilities in Indian Rupees for the previous three years. Based upon known commitments, summarise projected assets and liabilities in Indian Rupees for the next three years.

Financial information	Actual :		
in Indian Rupees	Previous three years		
	1	2	3
1. Total assets			
2. Current assets			
3. Total liabilities			
4. Current liabilities			

5. Profits before taxes			
6. Profits after taxes			

Specify proposed sources of financing to meet the cash flow demands of the Project, net of current commitments

Source of financing	Amount (Indian Rupees)
1.	
2.	
3.	

Attach audited financial statements for the last three years.

iv. Litigation History

Name of Bidder

Bidders should provide information on any history of litigation or arbitration resulting from Contracts executed in the last five years or currently under execution

Year	Award For/ Against Applicant	Name of client, cause of litigation and matter in dispute	Disputed amount (Current Value in Indian Rupees)

v. Performance Statement (for a period of last three years for all the type of items offered)

Sl. No.	Order placed by (full address of Purchaser)	Order No. and date	Description and quantity of ordered equipment	Value of order	Date of completion of delivery As per contract	Date of completion of delivery as per Actual	Remarks indicating reasons for late delivery, if any.	Balance qty., if any, to be supplied	Expected date of Commencement completion of balance supplies	Has the equipment been satisfactorily functioning? Attach certificate from the Purchaser/ Consignee

Date :……

Place :……...

(Signature) .....

(Printed Name) .....

(Designation) .....

(Common Seal) .....

vi. Details of Service Support

		SERVICE CENTRE AT BHUBANESWAR							
		Location							
Sl. No.	Address	Phone no.	Fax No.	Status of Office Working Days and Hours	Number of Software Engineers	Number of Hardware Engineers	Number of Hardware Staff	Value of Min. Stock Available at all times	List of Data Centers serviced in last two (2) years

V. SCHEDULE-E (DEVIATIONS AND ALTERNATIVES)

(a) The Bidder shall itemize any alternatives and deviations from the bid document included in his Bid. Each item shall be listed below with the following information:

(b) Any proposal in this section will be applicable only for the bidders whose Bid will be substantially responsive in accordance with Section-II.(1) "Instructions to Bidders".

(c) A Bid determined as not substantially responsive will be rejected and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

i. Reference Clause in the bid document.

ii. Detailed description of the alternative or deviation.

iii. Reason for the change.

iv. The change in bid price if the alternative or deviation is withdrawn and the bidder conforms to the specifications.

Date: (Signature) .....

Place: (Printed Name) .....

(Designation) .....

(Common Seal) .....

VI. SCHEDULE-F (FORM OF CERTIFICATE OF ORIGIN AND ELIGIBILITY)

Bidder's Name & Address

I (We) hereby certify that the equipment and materials to be supplied are produced in ....., an Eligible Source Country.

I (We) hereby certify that my (our) company is incorporated and registered in ....., an Eligible Source Country.

Date: (Signature) .....

Place: (Printed Name) .....

(Designation) .....

(Common Seal) .....

N.B : TO be signed and the scanned copy to be uploaded

VII. SCHEDULE-G (Technical Compliance Sheet)

Sl No.	Hardware/ Software Item	Features	Technical Specification	Bidders Response (Yes/No)	Remarks
OUTDOOR PTZ CAMERA					
1	CAMERA	Approved Make	As per scope		
		Type of camera			
		Place of installation			
		Industrial grade			
		Image/Video quality			
		Sensor			
		Len			
2	OPERATIONAL	In-Built IR LED	As per scope		
		To view image clearly in case of sudden change for lighting conditions			
		Backlight compensation			
		Pan/Tilt/Zoom feature			
		De-Fog Feature			
		Horizontal speed (variable):			
		Tilt speed (variable)			
		Preset accuracy			
		Variable speed			
		Integrated wiper			
		Zero backlash			
		Optical Zoom			
		Digital Zoom			
		Scanning System			
		Lighting condition			
		IP Compression/ Standard			
		S / N Ratio			
		Backlight Compensation			
		Effective viewable length			

		Day/Night feature			
		Contrast Enhancement			
		Digital Image Stabilization			
		Motion Detection			
		Privacy Masking			
		White Balance			
		Flip / Mirror			
		Intelligent Video Analytics			
3	NETWORK	Video Compression Format	As per scope		
		Resolution			
		Frame rate per second			
		Streaming Capability			
		Audio I/O			
		Audio Compression Format			
		Audio Communication			
		Protocol			
		Security			
		Streaming Method			
		ONVIF Conformance			
		Web Viewer			
4	ENVIRONMENTAL	Operating Temperature / Humidity	As per scope		
		Ingress Protection/ Waterproof Standard			
		Vandal Resistance/ Impact rating			
		Surge immunity			
		Wind resistance			
5	ELECTRICAL	Input Voltage / Current	As per scope		
		Power Consumption			
6	REGULATORY	Safety	As per scope		
		Outdoor installation			
		Electromagnetic compatibility (CE)			

		Photo biological safety (CE)			
7	STORAGE	Media	As per scope		
		Capacity			
		Automatic recording/ Auto transfer/ Auto clean			
OUTDOOR FIXED CAMERA					
1	CAMERA	Approved Make	As per scope		
		Type of camera			
		Place of installation			
		Industrial grade			
		Image/Video quality			
		Sensor			
		Lens			
2	OPERATIONAL	IR LED	As per scope		
		To view image clearly in case of sudden change for lighting conditions			
		Backlight compensation			
		De-Fog Feature			
		Preset accuracy			
		Integrated wiper			
		Zero backlash			
		Optical Zoom			
		Digital Zoom			
		Scanning System			
		Lighting condition			
		IP Compression/ Standard			
		S / N Ratio			
		Backlight Compensation			
		Effective viewable length			
		Day/Night feature			
		Contrast Enhancement			
		Digital Image Stabilization			
		Motion Detection			
		Privacy Masking			

		White Balance			
		Flip / Mirror			
		Intelligent Video Analytics			
		Video Compression Format			
		Resolution			
		Frame rate per second			
		Streaming Capability			
3	NETWORK	Audio I/O	As per scope		
		Audio Compression Format			
		Audio Communication			
		Protocol			
		Security			
		Streaming Method			
		ONVIF Conformance			
		Web Viewer			
4	ENVIRONMENTAL	Operating Temperature / Humidity	As per scope		
		Ingress Protection/ Waterproof Standard			
		Vandal Resistance/ Impact rating			
		Surge immunity			
		Wind resistance			
5	ELECTRICAL	Input Voltage / Current	As per scope		
		Power Consumption			
6	REGULATORY	Safety	As per scope		
		Outdoor installation			
		Electromagnetic compatibility (CE)			
		Photo biological safety (CE)			
7	STORAGE	Media	As per scope		
		Capacity			
		Automatic recording/ Auto transfer/ Auto clean			

INTDOOR DOME CAMERA					
1	CAMERA	Type of camera	As per scope		
		Place of installation			
		Industrial grade			
		Image/Video quality			
		Sensor			
		Lens			
2	OPERATIONAL	IR LED	As per scope		
		To view image clearly in case of sudden change for lighting conditions			
		Backlight compensation			
		De-Fog Feature			
		Preset accuracy			
		Zero backlash			
		Optical Zoom			
		Digital Zoom			
		Scanning System			
		Lighting condition			
		IP Compression/ Standard			
		S / N Ratio			
		Backlight Compensation			
		Effective viewable length			
		Day/Night feature			
		Contrast Enhancement			
		Digital Image Stabilization			
		Motion Detection			
		Privacy Masking			
		White Balance			
		Flip / Mirror			
		Intelligent Video Analytics			
		Video Compression Format			
		Resolution			
		Frame rate per second			
		Streaming Capability			

3	NETWORK	Audio I/O	As per scope		
		Audio Compression Format			
		Audio Communication			
		Protocol			
		Security			
		Streaming Method			
		ONVIF Conformance			
		Web Viewer			
4	ENVIRONMENTAL	Operating Temperature / Humidity	As per scope		
		Ingress Protection/ Waterproof Standard			
		Vandal Resistance/ Impact rating			
		Surge immunity			
5	ELECTRICAL	Input Voltage / Current	As per scope		
		Power Consumption			
6	REGULATORY	Safety	As per scope		
		Outdoor installation			
		Electromagnetic compatibility (CE)			
		Photo biological safety (CE)			
7	STORAGE	Media	As per scope		
		Capacity			
		Automatic recording/ Auto transfer/ Auto clean			
OUT DOOR HOUSHING FOR OUT DOOR CAMERAS					
1	Camera Housing	Industrial grade	As per scope		
		Certification			
		Operating temperature			
		Humidity			
		Weather proof			
		Automatic wiper			
		Automatic cooling facility			
SURGE PROTECTOR					

1	Operating Voltage: 5 VDC	5 VDC	As per scope		
2	Clamping Voltage: 90 VDC (Spark Over Voltage)	90 VDC(Spark over voltage)			
3	Operating Current: 1A	1A			
4	Peak Surge Current: 10 kA (8 x 20µs)	10 kA(8 x 20us)			
5	Frequency Range: 0 to 1 GHz	0 to 1 GHz			
6	Insertion Loss:	< 0.5 dB at 500 MHz			
		<1.0 dB at 900 MHz			
7	SPD Technology	Gas Discharge Tube (GDT)			
8	Connection Type	BNC, 75 Ohm			
9	Operating Temperature	-40°C to +85°C			
10	Dimensions (Inches)	0.6H x 0.6W x 2.0L			
OUT DOOR JUCTION BOX					
1	Purpose	UPS, MC, Surge protector	As per scope		
2	Industrial grade	Yes			
3	Conformance	Min. IP66			
4	Compliances	RoHS,			
5	Size	800H x 400W x 300D			
6	Accessories	Toughened glass window in the front door			
		Document pocket			
		wide range of terminals and terminal blocks			
		pole mounting clamps			
		natural and forced fan filter cooling solutions			
		Customized cut outs on door, mounting plate			
		bolted cable entry gland plate at the bottom			
		CFL light			
		stainless steel studs			

		for grounding			
		2mm thick mounting plate			
RACK SERVER WITH MONITER					
1	Processor	Single Processor Populated, expandable to 2 Sockets	As per scope		
		Intel Xeon E5-2430 6 core processor/higher			
		Processor Speed: 2.2 GHz or Higher			
2	Motherboard, Chipset	Server M/B based on associated chipset			
3	Memory	16 GB DDR-III 1066 MHz or higher SDRAM Memory with ECC expandable up to 96 GB/higher			
4	Video Controller	Integrated Graphic controller			
5	HDD Controller	SAS RAID Controller supporting RAID 0, 1 & 5			
6	Network Controller	4 X 1 Port Ethernet controller (10/100/1000Mbps)/ Higher ,IPV6 Ready			
7	Ports	4x USB 2.0 ports, 1xKeyboard port, 1xMouse port			
8	Storage	4x450GB SAS Hot swap HDD (10K rpm or higher)			
10	Optical Drive	Internal DVD Writer			
11	Display	TCO-05 certified 18.5” wide TFT monitor			
12	Keyboard & Mouse	OEM keyboard & OEM optical two button scroll mouse.			
13	Power Supply	Redundant Power Supply			

14	Driver/ Software Utility	System utilities with all required device driver software			
15	Form Factor	Rack(2U)			
16	OS Support & Certification	Support for Windows & Linux OS (32Bit & 64Bit both)			
17	System Management	Remote Management of Server , Pre-failure Alert (Processor, RAM, HDD) & Server Management Software			
18	Warranty	3 years on site comprehensive warranty			
DESKTOP PC WITH PRE- LOADED OS					
1	Processor	Intel Core i5, 5th Generation	As per scope		
2	OS	Windows 7 pre-loaded as specified with media & documentation & certificate of authenticity			
3	OS Certification	Windows 8 Pro with COA			
4	Chipset	Q8 Series			
5	Cache	6MB or higher version			
6	Bus Architecture	3PCI (PCI/PCI Express) or more			
7	Memory	8GB, 1600MHz DDR3 RAM with 32 GB expandability			
8	HDD	1 TB 7200 rpm/ higher			
9	Monitor	24 inches or larger TFT/LED digital colour monitor TCO-05 certified			
10	Keyboard	104/107 keys			
11	Mouse	Optical with USB interface			
12	Bays	4 nos. or above			

13	Ports	6 USB ports or more (at least 2 nos. USB with 3.0), 1 no. Display port/VGA port, Audio ports for microphone & headset in front			
14	Cabinet	Mini Tower			
15	DVD ROM Drive	8X or better DVD RW Drive			
16	Networking facility	10/100/1000 on board integrated network port with remote booting facility, remote system installation, remote wake up, TPM enabled 1.2 chip using any standard management software			
17	Power Management	Screen blanking, Hard disk & system idle mode in power on, set up password, power supply SMPS surge protected			
18	Antivirus	Pre-loaded Microsoft Security Essentials software			
24 PORT L3 MANAGED SWITCH					
1	Ports	24 RJ-45 10/100/1000 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+)	As per scope		
		4 SFP 100/1000 Mbps ports			
		Auto sensing/ Auto negotiating Ports			
		IPV6 Ready			
2	Performance	Should have wire speed Switching	As per scope		

		Capacity			
3	Standards & Protocols	General: IEEE 802.1AX Link Aggregation, IEEE 802.1D MAC Bridges, IEEE 802.1p Priority, IEEE 802.1Q VLANs IEEE 802.1s Multiple Spanning Trees, IEEE 802.1v VLAN, IEEE 802.3af and 802.3at Power over Ethernet, IEEE 802.3x Flow Control, QoS: 802.1p (CoS), Security: IEEE 802.1X Port Based Network Access Control	As per scope		
4	Management Features	command-line interface; Web browser; configuration menu; out-of-band management; SNMP Manager; Telnet; RMON1;	As per scope		
5	Warranty	3 years on site comprehensive warranty	As per scope		
MEDIA CONVERTER					
1	Function	LAN to Optical fibre & vice-versa	As per scope		
2	Type	Industrial Grade			
3	Operating temperature	(-)10 deg.C to +70deg.C			
4	Mounting Kit	Included			
5	Connectivity Technology	Wired			
6	Cabling Type	Ethernet 1000Base-LX, Ethernet 1000Base-T, Ethernet 100Base-TX, Ethernet			

		10Base-T			
7	Data transfer rate	1 Gbps			
8	Data link protocol	Ethernet, Fast Ethernet, Gigabit Ethernet			
9	Compliant standards	IEEE 802.3, IEEE 802.3ab, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z			
10	Status indicators	Link activity, Power, Transmit			
11	Features	Auto Cross, Link Fault Pass Through function (LFP), auto-negotiation			
12	Warranty	Min. 3 years			
24U,19 INCHES FLOOR STANDING RACK					
1	Features	Floor standing rack	As per scope		
		Conforms to DIN 41494 - or current industry practices			
		Load rating of 600 Kgs(min.)			
		Fine styling, plus economy			
		Steel doors - plain, vented at bottom, fully perforated and/or dual perforated			
		Glass doors - with optional vented side trims for front-to-back air flow			
		Powder coated finishing.(Steel doors & side trims for glass door should be powder coated)			
2	Size	Height - 24U	As per scope		
		Width - 600mm (min.) usable			
		Depth - 1000mm (min.) usable			

3	Material & Finish	Vertical pillars of the frame should be of aluminium. All other parts should be of sheet steel.	As per scope		
4	Accessories	Front door with toughened tinted glass with lock & key facility	As per scope		
		Rear steel doors with perforations			
		Stationary & sliding shelves			
		Cantilever shelves			
		Equipment support angles			
		Single fan tray with 4 fans(min.)			
		3 nos. of 1U cable managers(min.)			
		15 point AC distribution box with On/Off button(min.)			
		Cable entry provision at the top and bottom			
		Earthing kit			
		Castors with foot-operated brakes			
0.6 KVA INTERACTIVE UPS WITH BATTERIES					
1	Technology	600 VA with built in automatic voltage regulator, DG Set Compatibility	As per scope		
2	Capacity	600 VA			
3	Input	Voltage Range 145-280 Volts or better			
		Frequency Range 50 Hz +/- 10%			
4	Batteries	Type SMF12 V of 7AH type Leak Proof of reputed make			
		Backup Time Minimum 20 minutes on for a standard PC (15"			

		TFT Monitor)			
5	Output	Voltage 220Volts	As per scope		
		Waveform Modified / Simulated / quasi Sine wave			
		Transfer Time Less than 10 millisecond			
		Sockets Total 3 Nos., with surge protector			
		50 Hz +/- 10% Hz (under battery mode)			
		Power Factor 0.6			
6	Protection	Low Battery	As per scope		
		Overload Protection to be present			
		Overcharge			
		Overvoltage			
7	Environment	Temperature: (-)5 deg.C to +70 deg. C; Humidity: up to 90%			
8	Display	Mains, Battery mode & Load on Mains/Battery			
9	Warranty	3 years on site comprehensive warranty on device & 1 year on Battery			
10	Agency Approvals	ISO-14001 / ISO-9001 and CE			
11	Credentials	The OEM should have their own office & Sevice Center in Odisha	As per scope		
		The Technical Catalogue of the Product should be available in the OEM's Web Site			
		OEM to have 24X7 Toll Free Call Service Facility			
5KVA ONLINE UPS WITH BATTERIES					
1	Capacity	KVA / wattage	As per scope		
	Design	Nominal Input	As per		

		Voltage	scope		
		Nominal Input Frequency			
3	Input	Power Factor	As per scope		
		Nominal voltage regulation			
		Charging current Capacity			
		Battery back Up			
		VAH Require			
4	Output	power factor	As per scope		
		Nominal Output voltage			
		Output Frequency			
		Output Waveform			
		Total Harmonic distortion (THD)			
		Dynamic response			
		Crest factor			
		Overload Capacity			
		Frequency synchronization Band for Static. Bypass			
		Transfer (Inverter to Bypass)			
		Retransfer (Bypass to Inverter)			
		Automatic Bypass			
		Inverter Efficiency (DC to AC)			
		Overall efficiency (AC to AC)			
		Humidity			
5	Display	Input voltage	As per scope		
		Battery voltage			
		Output voltage			
		Output current			
		Output frequency			
		Input Frequency			
		Heat sink temperature			
		Fault indicated on Digital Display Alarms			

		input fail			
		Battery Low			
		Transfer to bypass and system fault			
		LED Indications			
6	Safety Standards and Credentials certificates	Protection	As per scope		
		Testing standards			
		Surge Protection standard			
7	Credentials	The OEM should have their own office & Service Center in Odisha	As per scope		
		Quoted products technical Catalogue must be available in OEM's Web Site			
		OEM must have 24X7 Toll Free Call Service Facility Toll Free Number to be provided			
8	Communication	SNMP or better communication port for interfacing, Remote monitoring	As per scope		
SOFTWARE					

1	Annexure 5: Video Management Software	The Video Management and Recording software should be of enterprise grade and capable to connect up to Min. 128 cameras and should have all provisions to expand the system to any no of cameras with additional licenses if required in future. The Software should be able to stream live analytics on the clients and should have all function for post event forensic search from the recorded video data. The VMS (Video management software) and VRM (Video Recording manager) should be from the same camera OEM for full featured benefits and enhanced compatibility and after installation maintenance.	As per scope		

2	Video Management System Software (VMSS)	The video management system shall be client/server based IP video security solution that provides seamless management of digital video, audio and data across an IP network. The video management system shall provide full virtual matrix switching and control capability. Video from other sites may be viewed from single or numerous workstations simultaneously at any time. Cameras, recorders, and viewing stations may be placed anywhere in the IP network.	As per scope		
3	Video Management System	A. The video management system (VMS) specified shall be a centrally managed, scalable based architecture that allows full virtual matrix switching and control systems.	As per scope		
		B. The VMS shall be designed to use a facility's existing IT infrastructure and require no special cabling.	As per scope		

		C. The VMS shall provide a built-in command script editor that allows customized command scripts to be written to control virtually all the system functions. Command scripts may be activated by system operators or automatically in response to alarms or system events. The built-in command script editor shall support C# and VB.NET.	As per scope		
		The VMS shall provide up to 10 different and independent programmable recording schedules. The schedules may be programmed to provide different record frames rates for day, night, and weekend periods as well as special days. Advanced task schedules may also be programmed that could specify allowed logon times for user groups, when events may trigger alarms, and when data backups should occur.	As per scope		

		The VMS shall allow the establishment of user groups that have access rights to specific cameras, priority for pan/tilt/zoom control, rights for exporting video, and access rights to system event log files. Access to live, playback, audio, PTZ control, preset control, and auxiliary commands shall be programmable on an individual camera basis.	As per scope		
		The VMS shall support Dual Authorization logon. It shall function as follows:	As per scope		
		a. Dual Authorization user groups may be created.	As per scope		
		b. Logon pairs, consisting of any two normal user groups, may be assigned to each Dual Authorization user group.	As per scope		
		c. A separate set of privileges and priorities can be assigned for each Dual Authorization user group.	As per scope		
		d. For each user group assigned as part of a logon pair, it shall be configurable whether the group can:	As per scope		

		- Log on either individually or as part of the logon pair	As per scope		
		- Or log on only as part of the logon pair.	As per scope		
		e. If a user that is part of logon pair logs on individually, then he shall receive the privileges and priorities of his assigned user group. If the same user logs in as part of a logon pair, i.e. being authorized by the second user, then the user shall receive the privileges and priorities assigned to the Dual Authorization group to which the pair is assigned.	As per scope		
		f. The logbook shall log the log on procedure to identify a single user or a dual authorization log on. Subsequent user actions shall be logged as the actions of the first user.	As per scope		
		The VMS workstations may be connected to up to 4 monitors where each monitor may be configured to display live streaming video, playback video, site maps, or alarms.	As per scope		

		The VMS shall support Lightweight Directory Access Protocol (LDAP) that allows integration with enterprise user management systems such as Microsoft Active Directory.	As per scope		
		The VMS shall export video and audio data optionally in ASF format to a CD/DVD drive, a network drive, or a USB drive. The exported data in ASF format may be played back using standard software such as Windows Media Player.	As per scope		
		The VMS shall export video and audio data optionally in its native recording format to a CD/DVD drive, a network drive, or a direct attached drive. The exported data in native recording format shall include all associated metadata. Viewer software shall be included with the export. Once installed, the viewer software allows playback of the streams on any compatible Windows PC.	As per scope		

		The VMS shall auto-discover IP devices with their default IP addresses, and allow auto-assignment of unique IP addresses.	As per scope		
		The VMS shall support continuous operation during Central Server down-times as live viewing, playback of recording and export of video data. The Operator Client shall indicate its connection status to the Central Server.	As per scope		
		The VMS shall be designed in such a way that configuration changes to any part of the system shall not interrupt operational tasks, until the operator decides to update re-fresh the workstation configuration.	As per scope		
4	Video Management System Components	A. Central Server software shall provide management, monitoring, and control of the entire system. The central server software should typically be installed on a server-class computer, but may be installed, with all the other video management software modules on one workstation. The Central Server shall also maintain data stream management,	As per scope		

		alarm management, priority management, central logbook, central configuration and user management.			
		The VMS software shall provide recording and playback management of video, audio, and data. The VMS software shall configure the streaming parameters of the assigned devices. The VMS software shall administer the data on the connected hard disk drives.	As per scope		
		The VMS shall be designed in such a way the Central Server downtimes do not affect the functionality of the recording services. Normal recording and Motion recording shall continue during the Central Server downtimes, only Alarm Recording cannot be activated as the Central Server is responsible for evaluating the alarm conditions. During Central Server downtime the recording services shall still be able to change the recording parameters schedule	As per scope		

		dependent.			
5		A. The video management system shall be capable of managing multiple recording manager systems.	As per scope		
		B. It shall be possible to assign encoders and IP cameras to recording manager.	As per scope		
		C. The recording parameters shall be configured in the recording tables of the VMS configuration program. These settings will be replicated into the devices from the Central Server.	As per scope		
		D. The recording manager shall manage encoders and IP-Cameras, and the Network attached storage systems. It shall offer system wide recording monitoring and management of	As per scope		

		Network Attached storage storage , video servers and cameras.			
		E. The recording manager shall support the encoders and cameras to directly stream the data to the Network attached storage.	As per scope		
		F. The transfer rate of the data from the encoder or IP-Camera is limited by network speed and the Network Attached Storage data throughput rate.	As per scope		
		G. The Recording Manager shall be able to restore a lost recording database from data on the Network attached storages.	As per scope		
		H. The Recording Manager shall provide flexible retrieval of recordings. It shall be able to determine on which network attached disk array data from each camera or encoder has been stored.	As per scope		
		I. It shall be possible to secure the access to the Recording Manager software with a password. This shall be done in the	As per scope		

		Configuration Client.			
		J. The Recording Manager software shall provide status monitoring information as a web interface. The following information shall be provided:	As per scope		
		a. Uptime of the Recording Manager software	As per scope		
		b. Bit rate information for the recorded data	As per scope		
		c. Retention times per camera	As per scope		
		d. Status on recording and storage	As per scope		
		K. The video management system shall allow configuring if playback of recordings is streamed through the Recording Manager or is streamed directly from the Network attached storage.	As per scope		

		L. The video management system shall support to retrieve the playback information, i.e. from which iSCSI storages to retrieve the video, audio and meta-data, either from the Video Recording Manager or directly from the IP encoder or camera. Playback information directly from the IP encoder or camera is limited in time and should be used while the Recording Manager is not available to increase the reliability of the video management system.	As per scope		
6	Alarm Management Capability	The video management system shall provide the capability to allow alarms to be schedule-dependent.	As per scope		
		The video management system shall allow alarms to be individually allocated to specific user groups for processing.	As per scope		
		The video management system shall be programmable to selectively, per alarm and per user group, automatically pop-up the alarm video.	As per scope		

		The video management system shall support display of alarm video in a special Alarm Image Window so users do not have to search their display screens to find the alarm images.	As per scope		
		The video management system's Alarm Image Panes shall be configurable to display live video, playback video, text documents, site maps, HTML files, or web sites (URLs). Per alarm one playback video and one site map can be configured.	As per scope		
		The video management system's Alarm Image Pane rows shall be displayed in order of their priority, with rows for higher priority alarms always displayed above lower priority alarm rows. The display order for equal priority alarms shall be selectable between new alarms displayed above existing alarms, or new alarms displayed below existing alarms.	As per scope		

		The video management system shall provide an alarm reaction time of maximum 2 seconds when sufficient network bandwidth is available.	As per scope		
		The video management system shall distribute alarm notifications, via entries in the alarm list of the operator user interface, to all members of the user groups to which the alarm is assigned. The alarms shall appear in all said users' alarm lists.	As per scope		
		The video management system shall operate as follows: when an alarm is accepted by a user, it shall be removed from the other users' alarm lists.	As per scope		
		The video management system shall allow a user to un-accept an alarm he has previously accepted. In this case, the alarm shall re-appear in the alarm lists of all members of the user groups assigned to this alarm.	As per scope		

		The video management system shall support the association of workflows with alarms. Workflows shall consist of action plans and comment boxes. An action plan shall display a text document, HTML page, or web site that typically contains instructions for handling the alarm. Comments entered in the comment boxes shall be logged in the system logbook.	As per scope		
		The video management system shall be configurable to force an alarm workflow. In this case, the alarm cannot be cleared until the workflow is processed.	As per scope		
		The video management system shall offer the possibility to automatically clear alarms when the originating event condition is no longer true.	As per scope		
		The video management system shall allow alarms to be configured to send PTZ cameras to prepositions or to execute camera Aux commands on occurrence.	As per scope		

		The video management system shall be configurable to put any IP-connected camera into alarm recording mode on alarm occurrence.	As per scope		
		The video management system shall be configurable to send an e-mail or SMS message in response to an alarm.	As per scope		
		As new alarms are received, alarm rows shall stack in priority order on the analog monitors.	As per scope		
		The VMS shall support for alarms to display video on multiple analog monitor groups, with configurable assignment of individual assignment of alarms to monitor groups.	As per scope		
7	Logbook	A. The system shall protocol every event and alarm in an SQL database. The alarm entry shall contain the camera titles that have been recorded due to this alarm.	As per scope		
		B. The logbook shall be able to store at least 500,000 entries per hour. If the capacity of the logbook is filled up the oldest entries will be deleted to create space.	As per scope		

		C. The user shall be able to search the logbook for events and alarms. The user shall be able to export the search results into a comma separated value list (CSV).	As per scope		
		D. The system shall included and install a ready-to-use SQL database. The system shall optionally allow the usage of a separately installed SQL database.	As per scope		
8	Pre-Programmed Camera sequences	The video management system shall support pre-programmed camera sequences. These sequences will allow cameras to be automatically displayed on the computer image panes and/or analog monitors connected to decoders. The sequences shall support simultaneous display on multiple image panes or monitors. The sequences shall also support camera prepositions for each PTZ camera on each sequence step. The system shall be configurable such that operators can select these sequences from the logical tree or a site map.	As per scope		

9	Command Scripts	A. The system shall be configurable such that operators can execute the created scripts by double-clicking on representative icons in a logical tree or site map.	As per scope		
		B. The system shall be configurable such that the created scripts can be executed automatically in response to a system event. The automatic event-driven execution shall optionally be schedule-dependent.	As per scope		
		C. The system shall be configurable to execute a user-group dependent command script on user logon.	As per scope		
		D. The system shall be configurable to execute an alarm-dependent command script on user acceptance of the alarm.	As per scope		
10	Configuration Changes	A. Configuration changes made in the VMS Configuration Client shall modify a working copy of the configuration, and shall not affect the active operating configuration.	As per scope		

		B. It shall be possible to activate the working copy through a user action in the Configuration Client, at which point the working becomes the new active operating configuration.	As per scope		
		C. It shall be possible to set a date and time in the future at which the working copy becomes active.	As per scope		
		D. It shall be possible to view a list of all configuration activations that have been applied to the system. It shall be possible to select any of the activated configurations, and have the system "roll back" to an earlier configuration.	As per scope		
		E. It shall be possible to activate a configuration and leave it to the operator to refresh the configuration locally instantly or at a later point in time. It shall be possible to enforce configuration activation for every Operator Client connected to the Central Server.	As per scope		

11	Operator Client	A. The video management system shall provide an administrator-configured Logical Tree. The logical tree shall be freely configurable with any tree structure, with nodes consisting of folders or maps, and leaves consisting of devices (cameras, inputs, and relays), sequences, documents, URLs, or command scripts. Each user group shall only see items in the logical tree for which the administrator has granted access.	As per scope		
		B. The user shall be able to search the logical tree for item names.	As per scope		
		C. The video management system shall provide a user-dependent Favourites Tree. The Favourites tree shall allow maps, folders, and devices and complete views (image pane patterns with camera assignments) to be configured by each user in a user-defined structure. The user's favourite's tree shall be available irrespective of the computer with which he logs on to the system.	As per scope		

		D. The video management system shall provide an Image Window that displays a collection of Image Panes. The layout shall be optimized for standard and widescreen monitors. With standard monitors the number of image panes per image window shall be variable between 1 (a single full-window video) and 25, arranged in a 5x5 grid. A slider shall be available allowing the grid size to be changed from 1x1, 2x2, 3x3, 4x4, and 5x5. With widescreen monitors the number of image panes per image windows shall be variable between 1 and 30, arranged in grids of 1x1, 3x2, 4x3, 5x4, and 6x5. The VMS shall allow image panes to be enlarged or decreased in size within the grid. E.g., in a 5x5 grid, a single image pane can be enlarged to use 4 of the grid elements, creating a larger image within the grid. Any pattern can be created within the grid structure. An image pane can be resized by	As per scope		

		clicking and dragging on any corner, dragging the corner to the desired size.			
		E. The video management shall implement the concept of a selected image pane. The selected image pane shall be highlighted. There shall always be a selected image pane in the Operator Client application. The selected image pane is always used for control commands, e.g. PTZ control, instant playback control, and audio replay.	As per scope		
		F. The video management system shall support the audio channels of the encoders and IP cameras. It shall be possible to assign audio sources to cameras. In the Operator Client it shall be possible to turn on/off the replay of the audio per camera.	As per scope		
		G. The video management system shall support two different audio modes, single source audio and multi-source audio.	As per scope		
		In single source audio mode only the audio source assigned to the	As per scope		

		camera in the selected image pane is replayed.			
		In multi-source audio mode all audio sources of the cameras displayed in the client application are replayed.	As per scope		
		H. The video management system shall support site maps with hot-spot icons for devices (cameras, relays, and inputs), command script initiation, camera sequence initiation, and links to other site maps. The site maps shall be capable of being zoomed. The hot-spot icons shall be configurable to optionally display the device name or link title.	As per scope		
		I. The Operator Client shall display live streams from Cameras. For IP-cameras and encoders it shall be possible to configure per workstation and individually per camera which encoding stream (Stream 1 or Stream 2) of these devices shall be displayed.	As per scope		

		J. The video management system shall support automatic sequencing. It shall be possible for users to multiple-select cameras (control-click or shift click), and drag the multiple-selection to an image pane or a graphic representing an analog monitor connected to a decoder. All of the cameras in the selection shall then sequence in the image pane or monitor at a user-selectable rate. It shall also be possible to drag a folder to an image pane or analog monitor. In this case, all of the cameras contained within the folder shall sequence.	As per scope		

		K. The video management system shall support PTZ control with a dedicated graphical joystick control, supporting Pan, Tilt, Zoom, Iris, Focus and Aux Command operations. It shall also support PTZ control via clicking the mouse in the image panes. For PTZ cameras, the cursor shall change to indicate the Pan/Tilt direction when hovering over the corresponding image pane. The Pan/Tilt speed shall increase as the cursor moves farther from the center of the image pane. An area in the center of the image pane shall be used for zoom-in/zoom-out control. Once zoom is initiated, the zoom speed shall increase as the cursor is moved farther from the center of the image pane.	As per scope		
		L. The video management system shall support digital zoom of any image pane. A dedicated graphical control shall be provided in the user interface for this purpose. In addition, the mouse wheel shall control digital zoom when	As per scope		

		the mouse cursor is hovering over a selected image pane.			
		M. The video management system shall provide an Instant Playback function that displays recorded images on one or multiple image panes. Recorded images from a single camera may also be played back on multiple panes. Instant playback supports pause, play forward, play reverse, single step forward, single step reverse, fast-forward, and fast-reverse.	As per scope		
		N. The video management system shall support a timeline that provides a graphical overview of video stored on the disk. The timeline shall display a timescale that can be adjusted from at least 15-minutes per division to 1 month per division. For each camera displayed in playback mode, the timeline shall provide a line that depicts the video storage for that camera. The line shall be color-coded to show if video is recorded for the displayed time	As per scope		

		period, and if so, if it is normal recording, motion recording, or alarm recording. The line shall be cross-hatched if the video is protected from deletion. The line shall also indicate if associated audio is recorded during the displayed time period.			
		For VRM and Local Storage recordings color coding is limited to protection and audio indication.	As per scope		
		O. The video management system shall support simultaneous time-synchronous playback of up to 16 cameras. Playback shall support single-step forward and backwards; play normal speed forward and backwards; play high-speed forward and backwards; and play slow-speed forward and backwards.	As per scope		
		The video management system shall support searching based on any combination of time/date-rage, event type(s), alarm priority, alarm state, and device(s). It shall be possible to save and recall search parameters.	As per scope		

		The video management system shall graphically display device states on its icons in the logical tree structure and on sitemaps. For cameras, the states shown shall include: loss of the analog video signal, network connection loss, video recording, video signal too noisy, video signal too bright, video signal too dark, video de-adjusted, and video includes associated audio. For relays and contact inputs, the open or close state shall be indicated.	As per scope		
		The video management system shall support an indication for the Operator Client regarding the connection state to the Central Server. This shall include connected, disconnected, and configuration out-of-sync between Central Server and Operator Client.	As per scope		

		The video management system shall support a centrally stored user profile to store settings individual for each operator. These settings shall include but are not limited to sequence dwell times, instant playback replay time and image pane ratio settings (16:9 or 4:3) individually per monitor. These settings shall be available independently of the physical workstation to the operator.	As per scope		
12	CCTV Keyboard Support	When CCTV Keyboards are connected to Operator Client Workstations, it shall be possible to control PTZ operation of the selected cameras and to control set and call-up PTZ prepositions of the selected camera using the keyboard joystick.	As per scope		
		When CCTV Keyboards are connected to Operator Client Workstations, it shall be possible to control playback of video, including both Instant Playback and Playback-mode synchronous playback, using the CCTV keyboard.	As per scope		

		When CCTV Keyboards are connected to Operator Client Workstations, playback control should include jog-shuttle emulation using the Keyboard Joystick.	As per scope		
13	Intelligent Video Analytics and forensic search	The video management system software shall support search of recorded video with at least the following criteria: object size, object color, direction, and speed as well as detecting objects entering or leaving designated areas. This Intelligent Video Analysis (IVA) based post-recording search will work for cameras recorded by VRM and Local Storage. (Please refer to detailed IVA specs)	As per scope		
		The video management system shall optionally display the information of the video analytics such as cells with detected motion, object masks, and trajectories in live and playback	As per scope		
14	Approved Make:-	BOSCH/ HONEYWELL/ PELCO/AXIS	As per scope		

VIII. SCHEDULE-H (General Compliance Schedule)

Sl. No.	Item	Vendor's Compliance	Deviation (if any)
01	General Terms & Conditions	Agreed/Not agreed	
02	EMD/ NSIC/ DGS&D Certificate	Deposited/Not deposited	
03	Latest Income Tax PAN and Sales Tax registration & clearance certificates.	Deposited/Not deposited	
04	Security Deposit	Agreed/Not agreed	
05	Payment Terms	Agreed/Not agreed	
06	Penalty Clause	Agreed/Not agreed	
07	Price Validity	Agreed/Not agreed	
08	Delivery & Installation Schedule	Agreed/Not agreed	
09	Warranty (3 years) & Post Installation clause	Agreed/Not agreed	
10	Minimum of 3 years onsite management of IP Based CCTV Surveillance System	Agreed/Not agreed	
11	Infrastructure of Bhubaneswar (for Installation and attendance of support calls)	Exist/Does not Exist	
12	Training and Documentation	Agreed/Not agreed	
13	CAMC support for min. 3 years after the expiry of Warranty Period of 3 years.	Agreed/Not agreed	
14	Credentials with documentary support as per Eligibility Clause. (ISO certificate, Turnover, Profitability, Order copies as required)	Submitted/ Not submitted.	
15	At least 3 Procurement orders in India with supporting documents	Submitted/ Not submitted.	
16	Authorized manufacturer ship / System Integrator ship certificate	Submitted/ Not submitted	

17	Original specification sheets for all items	Submitted/Not submitted	
18	Driver software, wherever applicable, to be supplied	Agreed/Not agreed.	
19	Equipment working environment: All the equipment shall work in AC & non-AC-room environment.	Agreed/Not agreed.	
20	A vendor must quote all the items	Agreed/Not agreed.	
21	Technical viability of the project for all the equipment offered by the vendor.	Submitted/Not submitted.	

Signature with Date Name in Block Letters Seal of the Company

Confirmation in one of the provisions between the vendor's alternatives provided shall be ticked.

Note: In case the vendor's confirmation is negative, specific comments are to be filled in the Deviation column. If the space is insufficient, a separate sheet may be enclosed.

IX. SCHEDULE-I

(PROFORMA FOR COMPOSITE BANK GUARANTEE FOR SECURITY DEPOSIT, PAYMENT AND PERFORMANCE)

This Guarantee Bond is executed this …….day of …….. 20…….. by us the ……(Bank) at ……. P.O. ……. P.S…… Dist…… State …….

WHEREAS THE ODISHA POWER TRANSMISSION CORPORATION LTD., a corporate body constituted under the Company Act, 1956 (herein after called "the OPTCL") has placed orders No……Dt……(hereinafter called "The Contract) on M/s…….

(hereinafter called "The Contractor") for supply, install, testing and commissioning of the …… AND

WHEREAS the Contractor has agreed to supply, install, testing and commissioning of …… at the OPTCL in terms of the said contract, AND

WHEREAS the OPTCL has agreed (1) to exempt the contractor from making payment of security, (2) to release 100% payment of the cost of materials as per the said agreement and (3) to exempt from performance guarantee on furnishing by the Contractor to the OPTCL a Composite Bank Guarantee of 10% (ten percent) of the contract value in force of the said contract.

NOW THEREFORE in consideration of the OPTCL having agreed (1) to exempt the contractor from making payment of security (2) releasing 100% payment to the contractor and (3) to exempt from furnishing performance guarantee in terms of the said contract as aforesaid, we, the ……(Bank) (hereinafter referred to as 'the Bank') do hereby undertake to pay to the OPTCL an amount not exceeding Rs……(Rupees ……) against any loss or damage caused to or suffered by or would be caused to or suffered by the OPTCL by reason of any breach by the said contractor of any of the terms and conditions contained in the said contract.

We (the Bank……) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the OPTCL stating that the amount claimed is due by way of loss or damage caused to or suffered by the OPTCL by reason of any breach by the said Contractor of any of the terms or conditions contained in the said contract or by reason of the Contractor's failure to perform the said contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs……(Rupees…….).

We (the Bank…….) also undertake to pay to the OPTCL any money so demanded not withstanding any dispute or disputes raised by the Contractor in any suit or proceeding instituted / pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor (s) shall have no claim against us for making such payment.

We (the Bank……) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said contract and that it shall continue to be so enforceable till all the dues of the OPTCL under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till Chairman-cum-Managing Director, ODISHA Power Transmission Corporation Limited or his nominee certifies that the terms and conditions of the said contract have been fully and properly carried out by the said Contractor and accordingly discharges this guarantee.

Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all liability under this guarantee thereafter.

We (the Bank……..) further agree that the OPTCL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) and we shall not be relieved from our liability by reason of any such variations or extension being granted to the said Contractor or for any forbearance, act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said contractor (s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions have effect of so relieving us.

This guarantee will not be discharged due to the change in the name, style and constitution of the Bank and the contractor.

We (the Bank…….) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the OPTCL in writing.

We (the Bank…….) further agree that this guarantee shall also be invokable at our place of business at Bhubaneswar in the state of ODISHA.

Dated at ……. the …… day of …… Two thousand ……

For …….

(Indicate the name of the Bank)

Witness:

1.

2.

NOTE FOR TENDERERS:

- The B.G. is to be furnished in Non-judicial Stamp paper of Rs.50/- as applicable as per ODISHA Stamp Duty Act. from any Nationalized Bank.
- The stamp paper must be purchased in the name of the Bank issuing BG.

X. SCHEDULE-J

PROFORMA FOR BANK GUARANTEE FOR EARNEST MONEY

Ref: Date: Bank Guarantee No.

1. In accordance with invitation to Bid No…… dated …….. of ODISHA Power Transmission Corporation Ltd. (hereinafter referred to as the OPTCL) for the purchase of …….. Messer……

Mr……..
Address……..
……
…….. …… Director(s)
(herein after referred to as 'Tenderer'wish/wished to participate in the said tender on furnishing an unequivocal and unconditional Bank Guarantee by the Tendered for the sum of Rs…… valid for a period of ……days (……..days) towards his Earnest Money we the …… (hereinafter referred to as 'the Bank') at the

(indicate the name of the Bank)
request of 'The Tenderer' Ms. / Sri……(hereinafter referred to as Contractor(s) do hereby unequivocally and unconditionally guarantee and undertake to pay during the above period, and/on further written request by the ……(indicate designation of Tenderer) to OPTCL, an amount not exceeding Rs……, without any demur or reservation. The guarantee would remain valid up to 4.00 P.M. of ……. (date) and if any further extension to this is required, the same will be extended on receiving instructions from the the Tenderer…… on whose behalf this guarantee has been issued.

2. We, the …….. (indicate the name of the Bank) do hereby, further undertake to pay the amount due and payable under this guarantee without any demur, merely on demand from the OPTCL stating that the amount claimed is due as per the terms of the said Bid. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs…….

3. We undertake to pay to the OPTCL any money so demand not withstanding any dispute or disputes so raised by the Contractor (s) in any suit or proceeding instituted/pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by as under this bond shall be a valid discharge of our liability for payment there under and the contractor (s) shall have no claim against us under this bond for making such payment.

4. We the ……. (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the aforesaid period of ……. Days (…….. days) and its shall continue to be so enforceable till all the dues of the OPTCL under or by virtue of the said Bid have been fully paid and its claims satisfied or discharged or till Chairman, OPTCL certifies that the terms and conditions of the said Bid have been fully and properly carried out by the said Tenderer and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the …… we shall be discharged from all liability under this guarantee thereafter.

5. We the …….. (indicate the name of Bank) further agree with the OPTCL that the OPTCL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms & conditions of the said Bid or to extend time of performance by the said contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the OPTCL against the said Tenderer and to forbear or enforce any of the terms and conditions relating to the said bid and we shall not be relieved from our liability by reason of any such variation postponement or extension being

granted to the said Contractor (s) or for any forbearance act or omission on the part of the OPTCL or any indulgence by the OPTCL to the said Contractor (s) or by any such matter or thing what so ever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the name, style and constitution of the Bank or the Tenderer.

7. We …….. (indicate the name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the OPTCL in writing.

8. We (the Bank…….) further agree that this guarantee shall also be invokable at our place of business at Bhubaneswar in the state of ODISHA.

Dated the ……. Date of ……..

Witness:-
1.
2.

For ……..
(indicate the name of Bank)

NOTE FOR TENDERERS: The B.G. is to be furnished in Non-judicial Stamp paper of Rs.50/- as applicable as per ODISHA Stamp Duty Act. from any Nationalized Bank.

XI. SCHEDULE-K (LIST OF CONSIGNEE)

Sl No	Item	Consignee & Quantity				
		Chandaka	Jayanagar	Budhipadar	Meramundali	Total
1	Outdoor PTZ Camera	3	4	10	11	28
2	Outdoor Fixed Camera	4	5	1	1	11
3	Indoor Dome	2	2	2	3	9

	camera					
4	Outdoor Housing for Cameras	7	9	11	12	39
5	Indoor camera housing	2	2	2	3	9
6	Surge Protector	7	9	11	12	39
7	Outdoor Junction Box	7	9	11	12	39
8	Rack Server with monitor	1	1	1	1	4
9	Desktop PC with pre-loaded latest OS	1	1	1	1	4
10	24 port L3 Managed switch	1	1	1	1	4
11	Single mode media converters(SC/LC fiber)	14	18	22	24	78
12	24U, 19inches, floor standing rack	1	1	1	1	4
13	0.5KV interactive UPS with batteries	7	9	11	12	39
14	5KVA Online UPS with batteries	1	1	1	1	4
15	NAS Server for video storage(16 TB)	1	1	1	1	4
16	OFC Cable (Single mode, multi core)	2	2	3	5	12
17	CAT 6 Cable	20	20	20	20	80
18	Patch Chords (7/10 ft.)	20	20	20	20	80

19	6/ 24 Port Patch Panel	12	12	14	16	54
20	6/ 24 Port LIU with couplers	12	12	14	16	54
21	Other necessary items like casing & capping for OFC, UTP CAT6 cables etc.	1	1	1	1	4
22	Electrical Cabling	1	1	1	1	4
23	Other necessary items like casing & capping for electrical cabling	1	1	1	1	4
24	Pole	4	4	0	0	8

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