

ODISHA POWER TRANSMISSION CORPORATION LIMITED

(A Govt. of ODISHA Undertaking)

Registered Office: Janpath, Bhubaneswar - 751022

CIN: U40102OR2004SGC007553

TENDER NOTICE No.TW-IT/OT/05/2017-18 DATE: 20-12-2017

Chief General Manager (IT), OPTCL, 3rd Floor, OPTCL TOWER, Janpath, Bhubaneswar on behalf of OPTCL invites bids in e-tender mode only from reputed eligible bidders for ***“Implementation of IP Based CCTV Surveillance System at 8 numbers of SAS Based OPTCL Grid Sub-Substations – Phase 1”*** conforming to the terms and conditions mentioned as follows:

The interested eligible bidders may visit our website www.optcl.co.in on or after 20/12/2017 (14:00 Hrs) 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 09/01/2018 (17:00 Hrs).

The interested bidders would be required to enrol themselves on the tender portal www.tenderwizard.com/OPTCL .Complete set of bidding documents are available at www.tenderwizard.com/OPTCL from 20/12/2017 (14:00Hrs) up to 08/01/2018(17:00 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 website <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:** “Implementation of IP Based CCTV Surveillance System at 8 nos. of Grid S/S of OPTCL”.
- II. The prospective bidders are advised to register their user ID, Password, company ID from the website www.tenderwizard.com/OPTCL by clicking on hyper link “Register Me”.

2. Submission of Bids

- III. 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 portal of the OPTCL Tender Wizard by the date and time indicated in the Tender notice.
- IV. Bids submitted in any other form will not be accepted. No request to collect the Bids in physical form will be entertained by the OPTCL.
- V. The OPTCL reserves the right to reject any bid, which is not submitted according to the instructions, stipulated.
- VI. The participants of the tender should be registered under IT Act, GST Act.
- VII. The Bidder must possess Compatible Digital Signature Certificate (DSC) of Class-II or Class-III.
- VIII. The Bidders are requested to follow the below steps for registration
 - (a) Click “Register”, fill the online registration form.
 - (b) Pay the amount of Rs. 2360/- through online payment mode in the Keonics Tender Wizard Portal. 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.
- IX. After viewing Tender Notification, if bidder intends to participate in tender, he/she has to use his/her e-tendering User Id and Password which has been received after registration and acquisition of DSCs.
- X. For any e-tendering assistance, contact help desk number: 080- 40482000 (Bangalore)

3. 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	:	11,200/- (non-refundable) including GST @ 12%.
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. 5900/- through online payment mode in the Keonics Tender Wizard Portal.
6	EMD*	:	All bids must be accompanied by a bid security (EMD) in the amount of 91,000/- (Ninety One Thousand Only)
7	Mode of EMD	:	The bid Security may be submitted in form a demand draft 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/Online Payment Receipt 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/Online Payment Receipts are to be submitted in original at the office of the undersigned on or before the last date & time of submission of bid.
9	Date of commencement of Sale of bidding document	:	20/12/2017(14:00Hrs)
10	Last date of sale of bidding document	:	08/01/2018(17:00Hrs)
11	Last date and time for Receipt of bids	:	09/01/2018(17:00Hrs)
12	Date of Pre-Bid meeting	:	28/12/2017(11:00Hrs)
13	Time and date of opening of Techno-commercial bids	:	10/01/2018(15:30 Hrs)
14	Time and of opening price bids	:	Will be Intimated Latter
15	Place of opening of bids & Address for communication	:	Office of 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. Scope of the Project:

I. Scope of work:

Scope of work comprises procurement, installation, commissioning, integrating, testing of all components of the IP based CCTV surveillance System at 8 Nos. of SAS Based OPTCL Grid S/S, that meet the full functionality, provide hand-holding for 90 days after successful installation, commissioning, integration, pilot testing and system roll out at all the 8 Grid Sub-Stations, along with OEM Warranty and Comprehensive AMC Support.

- a. **The bidders are strongly advised to visit the different sites in order to understand all activities involved in the project and accordingly quote for the tender.**
- b. **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 materialize and operationalize all the functional specifications of this project shall be borne by the successful bidder at no extra cost to the purchaser. Any excavation/digging work or any other such work, if required shall be the responsibility of the successful bidder.**
- c. **Bidders Need to submit the following as a mandatory requirement for this Bid:**
 - 1. **Understanding of the Project**
 - 2. **Approach Methodology:**
 - a. **Approach to meet the Scope:**
 - b. **Technical Understanding of the Project**
 - c. **Technical Architecture of this Project (Line Diagram)**
 - d. **Bill of Materials without Price**
 - 3. **Implementation Methodology**
 - 4. **Resource Management**
 - 5. **Time line in WBS**
- d. **CCTV Surveillance System shall be implemented in the following 8 Numbers of SAS Based OPTCL Grid Sub-Stations:**

#	Name of the Grid S/S	#	Name of the Grid S/S
1	Grid S/S Kendrapada	5	Grid S/S Argul
2	Grid S/S Jajpur Road	6	Grid S/S Konark
3	Grid S/S Infocity-II	7	Grid S/S Kesura
4	Grid S/S Chandaka-B	8	Grid S/S Shamuka

II. Schedule of Quantity

a. Supply & Installation & Commissioning:

All the supplies should be made as per OPTCL's approved makes complying with the technical specification mentioned in the tender document.

#	Item	UOM	Qty.
1	Outdoor PTZ Camera(with PTZ camera housing, gooseneck stand-wall mount bracket, heater & blower and power supply/ adaptor)	Nos.	26
2	Outdoor Fixed Camera (with fixed camera housing and power injector)	Nos.	4
3	Indoor Dome Camera (with power injector for dome camera)	Nos.	9
4	Fish Eye Camera with necessary accessories	Nos.	3
5	16 Channel NVR with 2 SATA for 2nos. of HDD (with additional mouse and keyboard)	Nos.	8
6	4 TB Surveillance HDD	Nos.	14
7	16 Port Unmanaged Network Switch	Nos.	8
8	32" LED Display	Nos.	8
9	Media Convertor (Box Type)	Nos.	16
10	600 VA Interactive UPS	Nos.	42
11	Surge Protector for Outdoor Cameras	Nos.	26
12	Fiber Patch Cords	Nos.	16
13	6 Core Armoured Fiber Optic Cable	Mtrs.	900
14	CAT6 STP Cable (Outdoor)	Mtrs.	1500
15	CAT6 STP Cable (Indoor)	Mtrs.	330
16	HDPE Conduit Pipe for FO with necessary accessories	Mtrs.	900
17	PVC Conduit Pipe for CAT6 with necessary accessories	Mtrs.	1830
18	1.1 KV Armoured Cu-Power Cable	Mtrs.	650
19	Outdoor Junction Box	Nos.	26
20	Pole	Nos.	20
21	Pole Mount Brackets	Nos.	26
22	Camera Holder, LIU Box Holder	Nos.	26
23	LIU-Box with Accessories(adaptor plate, pigtail, etc)	Nos.	16
24	6U Network Rack	Nos.	4
25	Display Monitor Desk	Nos.	8
26	Other necessary items like casing & capping for UTP and power cables etc.	Lump sum	8
27	Installation & Commissioning cost	Lump sum	8
28	Electrical Cabling & Other Miscellaneous Work as per site requirement	Lump sum	8

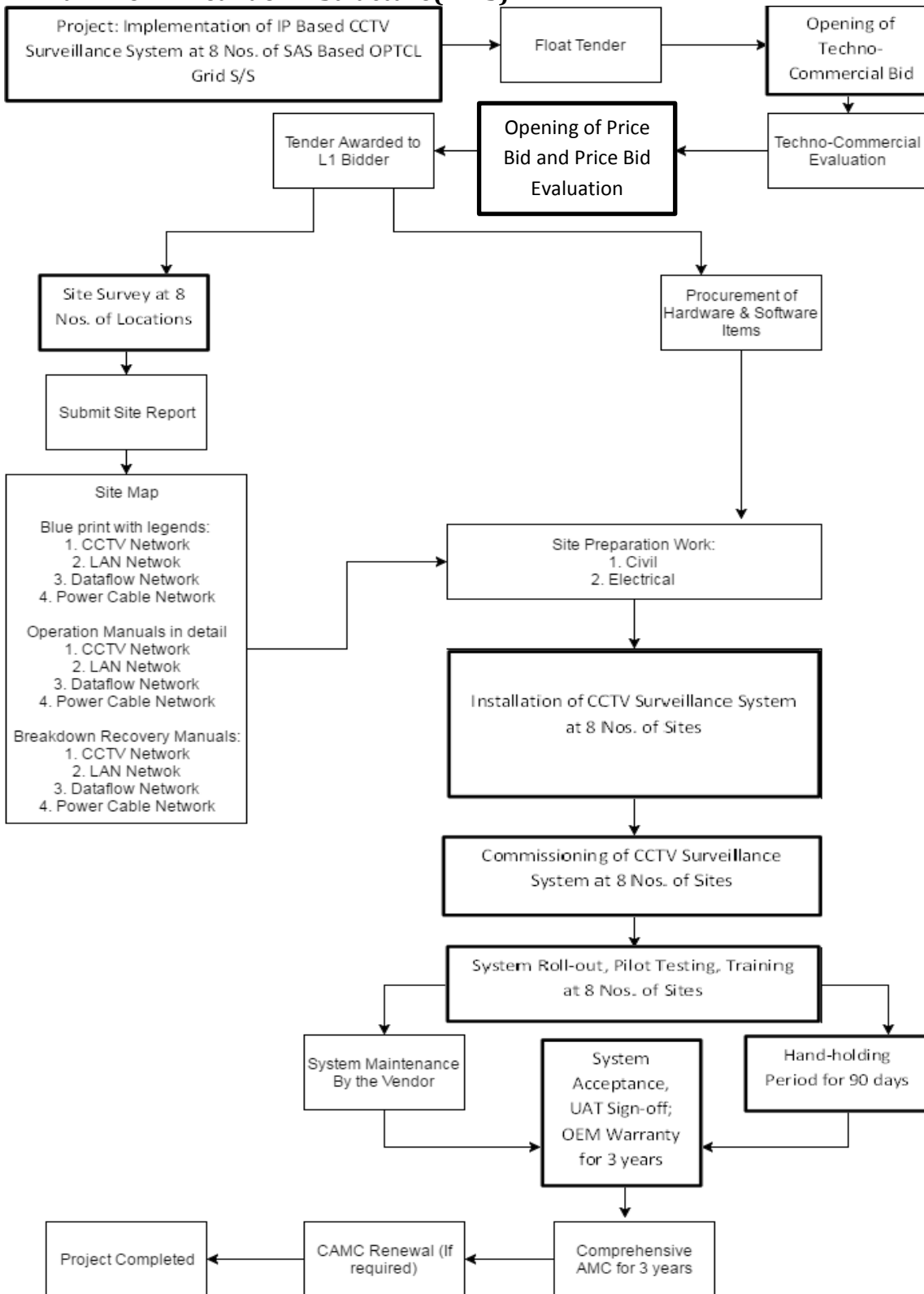
Please refer to the Schedule-H for list of Approved Makes for all the line items to be supplied for this project.

b. Comprehensive AMC for 3 years:

#	Description	Unit of Measurement
1	CAMC Charges for 3 years after warranty period for the 8 Grid S/S	Lump sum

III. Work Deliverables

a. Work Breakdown Structure(WBS)



IV. Project Timelines with Payment Breakup

Sl. No.	Activities/ deliverables	Project Deadlines	Amount
1	Submission & Acceptance of final complete site survey report, Factory Inspection of the CCTV equipment, Procurement & Delivery of CCTV hardware & software (8 sites)	W+60days	60% of Total Project Cost(excluding CAMC cost & Installation & Commissioning Cost)
2	Successful installation & commissioning, Successful system roll-out of the entire system, Successful training given to OPTCL officers (field officer + IT officer) and Submission of all the manuals/documents/drawings of CCTV Surveillance System duly checked and accepted as given in the tender (8 sites)	W+90days	30% of Total Project Cost(excluding CAMC cost)
3	Successful system maintenance & Hand-holding for 90 days and System acceptance by "End Users" (8 sites)	Successful roll-out + 90days	10% of Total Project Cost(excluding CAMC cost)
4	Warranty Period	36 months from date of UAT Sign-off or 40 months from the date of delivery of the items, whichever is later	
5	Comprehensive AMC Support	3 years from the date of expiry of warranty period	Quarterly Payment at the end of each quarter

N.B.: 'W' refers to the date of acceptance of Work Order.

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.

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 (Techno-Commercial Bid)** shall be opened on the stipulated date and time mentioned under clause SECTION-I.3 [Bidding Schedule]. After technical evaluation, the **Part-II (Price-Bid)** of successful bidders who qualify in the techno-commercial bid shall be opened on a later date - to be decided by the purchaser.
- III. The date of opening of price bids shall be intimated through OPTCL's web site.

- 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 (for all the OEMs of CCTV Components and Networking Components). 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. 5 crores for the financial years 2014-15, 2015-16 and 2016-17. 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 should be a valid ISO 9001 certified System Integrator for IP Based CCTV Surveillance System valid up to the completion of the contract period. The scanned copy of the latest ISO certificate should be uploaded along with the bid.
 - b. The bidder must have successfully executed at least one number of similar projects of value more than Rs. Rs. 60 Lakhs (Sixty lakhs) or two numbers of similar project of value more than Rs. 40 lakhs(Forty lakhs) or three numbers of similar projects of value more than Rs. 30 lakhs(Thirty lakhs) each during last three Financial Years. At least one such project should have been executed for any Govt. office / PSU / autonomous Govt. body. **The bidders should submit Customer certified credentials against the submitted Projects/Work Orders.**
 - c. The bidder must have full-fledged service centre at Bhubaneswar equipped

- with spare stock and certified manpower.
- 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 as per the price bid format given in SECTION-V.III.SCHEDULE-C.
 - f. The bidders should mandatorily submit the Product Performance Certificate from Central or State Govt./PSU/CPSU organization during the last three years from the date of advertisement.
- VI. Tenderer must have submitted the tender paper cost.
- VII. Tenders shall be accompanied by the prescribed earnest money deposit (EMD)
- VIII. Delivery & Installation Schedule must be agreed upon
- IX. 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 mentioned below are to be signed and scanned, then uploaded in the tenderwizard.com.

#	Document / Description
A. Documents needs to be Submitted in Hardcopy	
1.	<ul style="list-style-type: none"> • Earnest Money Deposit (EMD) : Demand Draft (Original) • Tender Processing Fee : Online Payment Receipt (Copy), • Tender Paper Cost: Demand Draft (Original) • Undertaking for acceptance of Term and conditions as mentioned in the Bid Sheet (Schedule-II) (Signed, sealed and scanned copy) • Authentic copy of registration Certificate as MSE unit if any, for claiming 50% EMD exemption
B. Documents needs to be Submitted in Softcopy along with Bid Sheets	
2.	Bid Declaration Form
3.	Manufacturer's Authorization certificate (MAF) from OEM
4.	OEM's declaration that the equipment shall not be out dated for six (6) years and necessary spare support shall be provided to ASI.
5.	Copies of certified auditor statement on Annual Turnover for last 3 years 2014-15, 2015-16, 2016-17 duly certified by an authorized CA.
6.	"System integrator" certificate for all the CCTV & Networking Components to be submitted from respective OEMs in OEM letter head.

7.	An undertaking that there will be no ownership change in the forthcoming three years from bid submission date.
8.	<ul style="list-style-type: none"> • Constitution or legal status, place of registration and principal place of business; • Copy of the Power of Attorney of the signatory if any of the bid to commit the bidder
9.	Details of maintenance and support infrastructure at Bhubaneswar
10.	Declaration regarding No subcontracting of the contract
11.	A list of bidder's banks
12.	Declaration to be submitted w.r.t information regarding any current litigation in which the bidder is involved, the parties concerned, and disputed amount;
13.	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
14.	The bidder should be a valid ISO 9001 certified System Integrator for IP Based CCTV Surveillance System. The scanned copy of the latest ISO certificate should be uploaded along with the bid.
15.	No Deviation Certificate as per the format described in Section-V.III.Schedule-E
16.	Price Schedule (Section-V.III.Schedule-C). Tenders not quoted for all the items will not be considered
17.	Scanned Copy of PAN, GST Registration
18.	Attested copy of TIN
19.	Income Tax Return for the last three Financial Years.
20.	An undertaking to provide goods and services confirming to tender specifications
21.	Technical literatures and original specifications sheets of each item offered on or before the last date & time of submission of tender.
22.	<ul style="list-style-type: none"> • Copy of purchase orders and completion certificate from Govt./ PSU / reputed organizations as per SECTION-I.6.V.b • Customer Certified Credentials shall be submitted along with the submitted Purchase Orders.
23.	Product Performance Certificate from Central or State Govt./PSU/CPSU organization during the last three years from the date of advertisement.
24.	Supporting Documents/Certifications to establish compliance in conformation with electro-magnetic compatibility requirements for Outdoor Cameras.
25.	<p>The following Document need to be submitted in Softcopy (signed and sealed) along with Techno commercial bid as a mandatory requirement (Refer Section-I.4.I. c)</p> <ol style="list-style-type: none"> 1. Understanding of the Project 2. Approach Methodology: 3. Implementation Methodology 4. Resource Management 5. Time line in WBS

X. OUTRIGHT REJECTION:

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 shall be out rightly rejected. The above

document is to be submitted in a sealed envelope super scribing the Tender Notice No. & Date of opening of tender on the envelope cover.

- i. EMD : Demand Draft /50% EMD amount with registration certification as MSE for claiming exemption as the case may be towards EMD
- ii. Demand Draft towards Tender paper Cost / Authentic Registration Certificate as MSE if any, for claiming tender paper cost exemption
- iii. Tender Processing Fee: Should be paid online and copy of the payment receipt shall be submitted along with the bid.

B. SECTION-II

1. General Instruction to the Bidders

- I. This tender covers 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 their authorized representatives (limited to one person), at the time of opening the bids.
- III. Only “non-material deviations” (which means only those deviations that do not qualify as material deviations as defined in ITB clause of bid document) will be considered by the purchaser. Please describe all the non-material deviations w.r.t Terms and conditions described in the General conditions of contract & Special conditions of contract, Section VIII.

If bidder desires to take any non-material deviation from the terms & conditions of the tender, it should be mentioned specifically in this deviation sheet. Unless such deviations are mentioned in this deviation sheet, the same will not be taken into consideration.

Format for Deviations

Sl. No.	Tender Reference (Section / Clause number)	Details of Clauses / Section needing deviation	Deviation proposed

Except aforesaid deviations, the entire order, if placed, shall be executed in accordance with specifications and any other conditions, variations/deviations etc. if found, elsewhere in this proposal should not be given any consideration while finalizing the tender.

It is not mandatory to consider and accept the deviation mentioned on deviation sheet proposed by the bidder.

Note: - Continuation sheet of like size & format may be used as per bidder’s requirement wherever necessary.

- IV. The purchaser reserves the right to reject the lowest or any other tenders or all tenders without assigning any reason whatsoever 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 EMD (Earnest Money Deposit) shall be offered in one of the following forms subject to the conditions mentioned below:
- i. **Demand Draft:** A Demand Draft drawn in favour of *Drawing and Disbursing Officer*, OPTCL Headquarters, Bhubaneswar – 751022.
 - ii. No interest shall be paid on Earnest Money Deposit
 - iii. No adjustment towards Earnest Money Deposit shall be permitted against any outstanding amount with OPTCL.
 - iv. In the case of the 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–III.(1).XXII. 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.
 - v. 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 tel.skmishra@optcl.co.in & it.hsatapathy@optcl.co.in.
- (d) This however, does not entitle the tenderer to ask for time beyond due date fixed for receipt of tender.
- (e) Conditional Offer: Conditional offers shall not be accepted.
- (f) Tenderers shall quote for all the items as per the Technical Specification

detailed under Section – IV. 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.

- (g) 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.
- VI. The tender terms and conditions mentioned in the RFP/Tender Document shall prevail over the terms and conditions mentioned in the techno-commercial bid and price bid, in case of any ambiguity.

C. SECTION-III

1. General Conditions of the Contract

I. 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 inconsistent 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, administrators 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 the tender, 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 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. The cost is exclusive of 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.

II. **GUIDELINES FOR THE BIDDER:**

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.

III. **PATENT RIGHTS ETC:**

Any dispute arising in respect of copy right act for the equipment supplied hardware 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.

IV. **MANNER OF EXECUTION:**

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.

V. **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.

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 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.

VI. 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 60(Sixty) days from the date of date of acceptance of "Work Order/Purchase Order.
- c. The Installation and commissioning of the items ordered should be completed within 90(Ninety) days from the date of acceptance of "Work Order/Purchase Order".

VII. 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.

VIII. DOCUMENTATION:

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.

IX. 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 by the competent authority.
- b.** The acceptance test will be conducted by the Purchaser, their consultant or any other person nominated by the Purchaser, at its option in presence of OPTCL IT executive as nominated by CGM (IT), OPTCL and OPTCL Electrical officer as nominated by CGM (O&M). The acceptance will involve trouble-free integrated operation of all items of supply for the complete hand-holding period. 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.

X. 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 misdemeanors.
- 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.

XI. SITE PREPARATIONS

The Purchaser is 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.

XII. 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).XV 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.(XII).(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).XV until the equipment is accepted. Execution of the contract under such circumstances shall however be on express written willingness of both the parties.

XIII. REJECTION OF MATERIALS:

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.

XIV. EXTENSION OF TIME:

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.

XV. PENALTIES TOWARDS SUPPLY, INSTALLATION, COMMISSIONING, INTEGRATION, TESTING & ACCEPTANCE

- a. Delay in execution of any supply, installation, commissioning, integration, testing & acceptance 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 price. Imposition of penalty is however subject to force majeure conditions.
- c. **For installation and commissioning:** If the installation, commissioning, integration, testing and acceptance is not completed within the schedule time, a penalty of 0.5% of the installation & commissioning cost (site-wise) for each week or part thereof subject to minimum of 5% , shall be recovered.
- d. **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.

XVI. WARRANTY:

- i. The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that 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 from OEM shall remain valid for thirty-six (36) months from the date of UAT Sign-off or Forty (40) months from the date of delivery, whichever is later for all the 8 Grid Sub-Stations.**
- a. 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 email or any other complaint registration method mutually agreed by the purchaser and vendor.
 - ii. The vendor shall rectify the fault within 24 hours from the time of registration of the complaint.
 - iii. System readjustment and/or system changing-over support on occasions of reconfiguration 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 CAMC Support shall be supplied, installed and commissioned free of cost by the bidder, irrespective of whether or not OEM charges for the same.
 - vii. Any corruption in the Software or media on defect in the Hardware shall be rectified/ replaced within 15 days of notification defect during the full period of the contract including Warranty and CAMC, at no extra cost to the OPTCL.
 - viii. 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.
 - ix. If any equipment gives continuous trouble, say three times in one month, during the warranty period, the Supplier shall replace the equipment with new equipment without any additional cost to the Purchaser.
 - x. In case, the downtime of a unit exceeds 24 hours from the time of intimation of OPTCL and the fault is not rectified or faulty equipment not replaced, a penalty of Rs.1000/- 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.
 - xi. **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.

XVII.COMPREHENSIVE AMC SUPPORT AND MAINTENANCE:

- a. The Vendor shall provide CAMC Support and Maintenance for the entire project in toto soon after the warranty period is over for a period of three years. The vendor must complete 3 yrs. CAMC agreement (as per the CAMC agreement format to be given by OPTCL along with the Work Order) before two months of completion of 3 years warranty, **failing**

which necessary action towards forfeiture of CPBG will be initiated as deemed fit.

- b.** A Bank Guarantee of 2% of the cost of the total project cost (excluding Comprehensive Annual Maintenance Charges) shall be furnished from any Nationalized/ Scheduled Bank to Chief General Manager (I.T), OPTCL, Bhubaneswar before 2 months of completion of the 3 years warranty period executed in a non-judicial stamp paper worth of Rs. 100/- (Rupees One Hundred) only subject to change as per Odisha 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 installments 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 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.
- f.** 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.
- g.** In case, the downtime of a unit exceeds 24 hours from the time of intimation by OPTCL and the fault is not rectified or faulty equipment is not replaced, a penalty of Rs.1000/- per day per faulty unit will be charged and will be recovered from the quarterly CAMC Cost. 24 hours or part thereof beyond the stipulated downtime shall be counted as a full day for calculation and imposition of penalty.

XVIII. 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 techno-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 the quoted unit prices.

XIX. IMPORT LICENCE:

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.

XX. VALIDITY:

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 techno-commercial bid. 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.

XXI. TERMS OF PAYMENT:

a. Supply Installation & Commissioning of the CCTV System

- i. 60% of the Contract Price (excluding CAMC cost & Service Cost) 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.
 - a. Bills in triplicate
 - b. Delivery Challan duly signed by consignee of each location.
 - c. Bank Guarantee: The supplier shall furnish Bank Guarantee of appropriate amount to OPTCL covering 10% (Composite Bank Guarantee) of the total contract price (excluding CAMC Cost) valid for 43 months (forty three months) from date of delivery. For this purpose the contract price shall mean firm price.
 - d. Verification & Inspection Certificate duly signed by IT officers and approved by CGM (IT).
- ii. 30% of the amount (Contract Price excluding CAMC Cost) shall be made on successful installation and commissioning of the CCTV Surveillance system, complete system rollout, training to Field and IT officers of OPTCL and submission of necessary manuals, drawings and documentation at all the 8 designated Grid Sub-Stations of OPTCL. The payment shall be made on submission of the following documents:
 - a. Bills in triplicate

- b. Installation & Commissioning certificate
 - c. Training Certificate
 - d. Successful System Roll-out certificate
 - e. OEM warranty certificate as per the warranty clause
 - f. Training Completion Certificate
 - g. Manuals, Drawings and other necessary documents.
- iii. 10% of the amount (Contract Price excluding CAMC Cost) shall be made on completion of 90days hand holding by the supplier and UAT sign off. The payment shall be made on submission of the following documents:
- a. Bills in triplicate
 - b. User Acceptance Test Certificate
 - c. Performance Certificate during the Handholding period.
- b. Comprehensive AMC Support:**
Quarterly Payment shall be made after Completion of each Quarter on submission of the following documents:
- a. Bills in Triplicate
 - b. Preventive Maintenance Report duly signed by Officer-in-Charge of Grid Sub-stations.
 - c. Copy of Service Report for the downtime of any equipment, if any, during the particular quarter duly signed by Officer-in-Charge of Grid Sub-Stations.

No advance payment in any form will be made.

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

XXII. COMPOSITE BANK GUARANTEE:

- a. A composite Bank Guarantee at the rate of 10% (Ten percent) of the value of the total project (excluding CAMC) shall be furnished from any Nationalized/Scheduled Bank to the Chief General Manager (I.T), OPTCL within 30 (thirty) days of acceptance of the work order, executed in a non-judicial stamp paper worth of Rs.100/- (Rupees Hundred) only subject to change as per ODISHA Stamp Duty Act valid for a valid for 43 months (forty three months) from date of delivery as per proforma enclosed, towards security, 100% payment and performance guarantee purposes failing which 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.

XXIII. INSURANCE:

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 awaiting for the settlement of their claims with the carriers and underwriters. In case the replacement of damaged item/part is not done within 30 (Thirty)days, the material shall be treated as not delivered and shall attract penalty till replacement as per clause under heading “Rejection of Materials”.

XXIV. NO DEVIATION CERTIFICATE:

The Bidder needs to submit a No Deviation Certificate as per the format given in SECTION-V.V(SCHEDULE-E).

XXV. PAYMENT DUE FROM THE CONTRACTOR:

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.

XXVI. JURISDICTION OF THE HIGH COURT OF ODISHA:

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.

XXVII. RIGHT TO REJECT/ACCEPT ANY TENDER:

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.

XXVIII. CONTRACTOR'S RESPONSIBILITY:

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.

XXIX. EVALUATION OF BIDS:

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.

XXX. 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 samemanner.

XXXI. COPYRIGHT PROTECTION OF TENDER DOCUMENT:

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. Technical requirements of major equipment of IP Based CCTV Surveillance System:

- a. The IP based CCTV Surveillance system shall be an integrated system with IP network centric functional and management architecture aimed at providing high-speed manual/automatic operation for best performance.
- b. The system should facilitate viewing of live and recorded images and controlling of all cameras by the authorized users.
- c. The system shall use video signals from various types of indoor/outdoor CCTV Cameras installed at different
- d. locations, process them for viewing on workstations/monitors/display unit in the control Room and simultaneously record all the cameras after compression using H.264/MPEG-4 or better standard. Mouse/Keyboard controllers shall be used for Pan, Tilt, Zoom, and other functions of desired cameras.
- e. The System shall provide sufficient storage of all the camera recordings for a period of 20 days or more @ 30FPS, using necessary compression techniques for all cameras. **It must be ensured that data once recorded shall not be altered by any means.** The recording resolution and frame rate for each camera shall be user programmable.

II. System Requirements:

- a. System must provide built-in facility of watermarking or Digital certificate to ensure tamperproof recording.
- b. All cameras may be connected through OPTCL LAN.
- c. All camera recordings shall have Camera ID & location/area of recording as well as date/time stamp. Camera ID, Location/Area of recording & date/time shall be programmable by the system administrator with User ID & Password.
- d. Facility of camera recording in real-time mode (30 FPS)/25/15/12.5/10 or lower FPS as well as in any desired combination must be available in the system.
- e. Facility of Camera recording in Full HD (1280X1920p), D1, 4CIF, CIF, VGA, as well as in any combination i.e. any camera can be recorded in any quality.
- f. In order to optimize the memory, while recording, video shall be compressed using H264/MPEG-4 or better standard and streamed over the IP network.
- g. System shall be triplex i.e. it should provide facility of Viewing, Recording & Replay simultaneously.

- h. The offered system shall have facility to export the desired portion of clipping (from a specific date/time to another specific date/time) on CD or DVD. Viewing of this recording shall be possible on standard PC using standard software like windows media player etc.
- i. The Cameras should generally conform to Electro-magnetic compatibility requirements for outdoor cameras in EHV switchyards. The major EMC required for Outdoor Cameras shall be as under:
 - Electrical Fast Transient (Level 4) – As per IEC 61000-4-4
 - Damped Oscillatory (1MHz and 100KHz)(level 3)–As per IEC 61000-4-12
 - AC Voltage Dips & Interruption/Variation (level 4) – As per IEC 61000-4-12
 - Electrostatic Discharge (Level 4) – As per IEC 61000-4-2
 - Power Frequency Magnetic Field (level 4) – As per IEC 61000-4-8
 - Ripple on DC Power Supply (level 4) – As per IEC 61000-4-17

Supporting Documents/Certifications to establish compliance with the above requirement shall be submitted during the submission of Techno-Commercial Bid.

2. Technical Specifications:

a. Hardware & Software:

Sl. No	Item Description	Detailed Specification	
Outdoor PTZ Camera(with PTZ camera housing, gooseneck- with wall mount bracket and power supply or adaptor)			
1	CAMERA	Type of camera	High-Definition Outdoor PTZ Camera, suitable for both day and night surveillance
		Place of installation	Outdoor Type
		Industrial Grade	Yes
		Effective Pixel	Minimum 2 Mega Pixel
		Sensor	Progressive scan CMOS
		Lens	CS mount, Full HD, IR Correction or higher The focal length of the lens shall be provided so as to meet specification the IR distance and effective viewable distance. Bidder needs to submit the camera lens' sizing sheet to meet the tender requirement. This should be considered as a mandatory technical requirement, duly signed and sealed by authorised person and should be submitted as an integral part of the technical bid.
2	OPERATIONAL	Night Vision	Night vision with IR-LED/ IR Cut Filter
		IR Features	The Camera shall have inbuilt IR or External IR Component
		IR Distance	Minimum 100mtrs

Sl. No	Item Description	Detailed Specification	
		Effective Viewable Distance	Minimum 100mtrs
		Wide Dynamic Range	WDR/DWDR
		Backlight Compensation Feature	BLC/HLC/WDR
		Pan/Tilt/Zoom Feature	Pan/Tilt/Zoom feature should be available i. PAN: Preset Speed: 240°/s, Pan Range : 360° continuous ii. TILT: Tilt Preset Speed: 160°/s, Tilt Range: -0° ~ 90° iii. ZOOM: Optical Zoom: 30X(min.), Digital Zoom : 12X(min.) iv. PRESET: Number of preset: 256
		Scanning System	Progressive
		Light Sensitivity	Colour mode: 0.022 lux, B/W mode: 0.11 lux @ 30IRE, F1.6 or better
		Electronic Shutter	Should have automatic Electronic Shutter feature
		Signal-to-Noise Ratio	Min 50dB
		Day/Night Feature	Should have Day/Night Feature
		Motion Detection & Tamper Detection Feature	Should have Motion Detection & tamper Detection Feature
		Privacy Masking Feature	Should have Privacy Masking Feature
		De-Fog Feature	Should have De-Fog Feature
		White Balance	Should have Auto/Manual/Sodium Vapor Lamp/Indoor/Outdoor white balance feature
		3	NETWORK
		Image Resolution	1920×1080(1080p)
		Frame Rate per second	Frame rate: 25 frames/s (PAL) or 30 frames/s(NTSC)
		Compression Standards	H.264 / MJPEG / MPEG4
		Protocols	IPv4,IPv6 ready, HTTP, HTTPS, 802.1x, QoS, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTP,TCP, UDP, IGMP, ICMP, DHCP, PPPoE/802.3at POE+
		Security	User authentication protection, IP address filtering/802.1x authentication
		Multiple Streams	The Camera shall provide at least two simultaneous video streams. Stream compression should be as following: 1. Primary Stream: H.264 2. Secondary Stream: H.264 or Motion-JPEG/MPEG-4.
		Inter-operability	Should have Onvif conformance feature
		Web Access	Supported Browser : IE 7+, Chrome 18+, Firefox 5.0+, Safari 5.02+, support multi-language
4	GENERAL	Input Voltage	24 VAC and PoE (Power Over Ethernet)
		Power Consumption	Max. 60W
5	RECORDING & STORAGE MANAGEMENT	Audio I/O	Input : 1 channel Output : 1 channel
		SD Card Slot	Built-in SD card slot: SD/SDHC/SDXC/ any other latest technology card

Sl. No	Item Description	Detailed Specification	
		Type & Capacity	A memory card (a maximum of 32GB micro SDHC/ micro SDXC) or more can be Supplied along with camera and should record automatically when network not available and same data to be push back to storage once network is established for camera
		Recording Management	Shall support manual / alarm / edge recording
6	ENVIRONMENTAL	Camera Housing & Mount	1. The Camera housing and gooseneck stand-wall mount bracket should be of same make as that of Camera and suitable for the model no offered as specified by the manufacturer and should be an integrated unit. The housing should be Weather Proof IP65/66 rated and of aluminium construction. The housing shall have heater and blower. 2. The camera should be supplied with a power supply/adaptor
		Operating Temperature	-30 deg C to +60 deg C
		Humidity	90% or less (non-condensing)
7	STANDARDS & CERTIFICATIONS	Certification	UL and ISO/IEC/EN/CE/FCC certifications required. The bidder is required to submit the certifications along with the techno-commercial bid.
		IP Standard	IP66/IP67
Outdoor Fixed Camera(with fixed camera housing and power injector)			
Sl. No	Item Description	Detailed Specification	
1	CAMERA	Type of camera	High-Definition Outdoor Fixed Camera, suitable for both day and night surveillance
		Place of installation	Outdoor Type
		Industrial Grade	Yes
		Effective Pixel	Minimum 2 Mega Pixel
		Sensor	Progressive scan CMOS
		Lens	CS mount, Full HD, IR Correction or higher The focal length of the lens shall be provided so as to meet specification the IR distance and effective viewable distance. Bidder needs to submit the camera lens' sizing sheet to meet the tender requirement. This should be considered as a mandatory technical requirement, duly signed and sealed by authorised person and should be submitted as an integral part of the technical bid.
2	OPERATIONAL	Night Vision	Night vision with IR-LED
		IR Features	The Camera shall have inbuilt IR or External IR Component.
		IR Distance	50mtrs
		Effective Viewable Distance	50mtrs
		Wide Dynamic Range	WDR/DWDR

Sl. No	Item Description	Detailed Specification	
		Backlight Compensation Feature	BLC/HLC/WDR
		Scanning System	Progressive
		Light Sensitivity	Colour mode: 0.07 lux, B/W mode: 0.05 lux @ 30IRE, F1.2 or better
		Signal-to-Noise Ratio	Min 50dB
		Day/Night Feature	Should have Day/Night Feature
		Motion Detection & Tamper Detection Feature	Should have Motion Detection & Tamper Detection Feature
		Privacy Masking Feature	Should have privacy masking feature
		De-Fog Feature	Should have De-Fog Feature
		White Balance	Should have Automatic/Manual White Balance Feature
3	NETWORK	Ethernet	10Base-T / 100Base-TX/ RJ45 connector
		Image Resolution	1920×1080(1080p)
		Frame Rate per second	Frame rate: min. 25 frames/s (PAL) or min. 30 frames/s(NTSC)
		Compression Standards	H.264/ MJPEG / MPEG4(min.)
		Protocols	TCP/IP/IPv4, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6,
		Security	User authentication protection, IP address filtering/802.1x authentication
		Multiple Streams	The Camera shall provide at least two simultaneous video streams. Stream compression should be as following: 1. Primary Stream: H.264 2. Secondary Stream: H.264 or Motion-JPEG/MPEG-4.
		Inter-operability	Should have Onvif conformance feature
		Web Access	Supported Browser : IE 7+, Chrome 18+, Firefox 5.0+, Safari 5.02+, support multi-language
4	GENERAL	Input Voltage	24 VAC and PoE(Power Over Ethernet)
		Power Consumption	Max. 30W
5	RECORDING & STORAGE MANAGEMENT	Audio I/O	Input : 1 channel Output : 1 channel
		SD Card Slot	Built-in SD card slot: SD/SDHC/SDXC/ any other latest technology card
		Type & Capacity	A memory card (a maximum of 32GB micro SDHC/ micro SDXC) or more can be Supplied along with camera and should record automatically when network not available and same data to be push back to storage once network established for camera
		Recording Management	Shall support manual / alarm / edge recording

Sl. No	Item Description	Detailed Specification	
6	ENVIRONMENTAL	Camera Housing & Mount	1. The Camera housing should be of same make as that of Camera and suitable for the model no offered as specified by the manufacturer and should be an integrated unit. The housing should be Weather Proof IP65/66 rated and of aluminium construction. The housing shall have heater and blower. 2. The camera should be supplied with a power injector as per technical specification specified in the tender document
		Operating Temperature	-20 deg C to +50 deg C
		Humidity	90% or less (non-condensing)
7	STANDARDS & CERTIFICATIONS	Certification	UL and ISO/IEC/EN/CE/FCC certifications required. The bidder is required to submit the certifications along with the techno-commercial bid.
		IP Standard	IP66/IP67
Indoor Dome camera (with power injector for dome camera)			
Sl. No	Item Description	Detailed Specification	
1	CAMERA	Type of camera	High-Definition Indoor Camera, suitable for both day and night surveillance
		Place of installation	Indoor
		Industrial Grade	Yes
		Effective Pixel	Minimum 2 Mega Pixel
		Sensor	Progressive scan CMOS
		Lens	CS mount, Full HD, IR Correction or higher The focal length of the lens shall be provided so as to meet specification the IR distance and effective viewable distance. Bidder needs to submit the camera lens' sizing sheet to meet the tender requirement. This should be considered as a mandatory technical requirement, duly signed and sealed by authorised person and should be submitted as an integral part of the technical bid.
2	OPERATIONAL	Night Vision	Night vision with IR-LED
		IR Features	The Camera shall have inbuilt IR or External IR Component.
		IR Distance	30mtrs
		Effective Viewable Distance	30mtrs
		Wide Dynamic Range	WDR/DWDR
		Backlight Compensation Feature	BLC/HLC/WDR
		Scanning System	Progressive

Sl. No	Item Description	Detailed Specification	
		Light Sensitivity	Colour mode: 0.05 lux, B/W mode: 0.05 lux @ 30IRE, F1.2 or better
		Signal-to-Noise Ratio	Min 50dB
		Day/Night Feature	Should have Day/Night Feature
		Motion Detection & Tamper Detection Feature	Should have Motion Detection & Tamper Detection Feature
		White Balance	Should have auto/manual/indoor/outdoor white balance feature
3	NETWORK	Ethernet	10Base-T / 100Base-TX/ RJ45 connector
		Image Resolution	1920×1080(1080p)
		Frame Rate per second	Frame rate: min. 25 frames/s (PAL) or min. 30 frames/s(NTSC)
		Compression Standards	H.264/ MJPEG / MPEG4(min.)
		Protocols	TCP/IP/IPv4, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, NTP, UPnP, SMTP, SNMP,IGMP, 802.1X, QoS, IPv6,
		Security	User authentication protection, IP address filtering/802.1x authentication
		Streaming method	Triple streams or above
		Inter-operability	Should have Onvif conformance feature
		Web Access	Supported Browser : IE 7+, Chrome 18+, Firefox 5.0+, Safari 5.02+, support multi-language
4	GENERAL	Input Voltage	24 VAC and PoE(Power Over Ethernet)
		Power Consumption	Max. 12.5W
5	RECORDING & STORAGE MANAGEMENT	SD Card Slot	Built-in SD card slot: SD/SDHC/SDXC/ any other latest technology card
		Type & Capacity	A memory card (a maximum of 32GB micro SDHC/ micro SDXC) or more can be Supplied along with camera and should record automatically when network not available and same data to be push back to storage once network established for camera
		Recording Management	Shall support manual / alarm / edge recording
6	ENVIRONMENTAL	Camera Housing & Mount	The camera should be supplied with a power power injector as per technical specification specified in the tender document
		Operating Temperature	-20 deg C to +50 deg C
		Humidity	90% or less (non-condensing)
7	STANDARDS & CERTIFICATIONS	Certification	UL and ISO/IEC/EN/CE/FCC certifications required. The bidder is required to submit the certifications along with the techno-commercial bid.
		IP Standard	IP66/IP67

Fish Eye Camera with accessories			
Sl. No.	Item Description	Detailed Specification	
1	General	Lens Field of View	Shall have 180° Horizontal, 180° Vertical field of view
		Image Sensor	Minimum 5 MP with minimum 1/2.3 inch CMOS Sensor
		Lens	Shall have 360° Fisheye. The focal length of the lens shall be provided so as to meet specification the IR distance and effective viewable distance. Bidder needs to submit the camera lens' sizing sheet to meet the tender requirement. This should be considered as a mandatory technical requirement, duly signed and sealed by authorised person and should be submitted as an integral part of the technical bid.
		Minimum Illumination	Shall Have minimum illumination of 0.1 lux
		Effective Viewable Distance	15 mtrs (min.)
		IR Distance	15 mtrs (min.)
		Frame Rate	Minimum 12 fps
		Video Motion Detection	Shall have facility for the configurable regions as per the interest
		Security	Shall have Configurable password protection feature
		Advanced Event Management	Triggered by motion, external input or HTTP event, result configurable, external output,FTP/SMTP upload, Local recording
		Networking Protocols	TCP/IP, HTTP, DHCP, DNS, NTP, FTP and SMTP
		Local storage	Shall have Built-in SD card slot. Supports cards (microSDHC / microSDXC) card of minimum 128 GB capacity. Speed class 10 or higher required.
		Audio Connections	Audio In through 3.5 mm jack
		White Balance Range	Shall have Auto White Balance Modes
2	Video	Video Stream	H.264
		Video Compression	Multi-levels of compression and frame rate adjustment
		Video Resolution	Fisheyes view including full 360 degree view at Different Resolution
		Maximum Frame Rate	Minimum 15 fps
		Image Control Settings:	brightness / contrast / saturation / exposure compensation,compression quality and wall / ceiling / table mount

Sl. No	Item Description	Detailed Specification	
		Image Enhancement	WDR (Wide Dynamic Range) of minimum 60dB
		PTZ Functionality	Pan, Tilt and Zoom functionality with remote management through OEM Management software
		Web Browser Compatibility	Internet Explorer 9, EDGE (Latest version), Mozilla Firefox(Latest version) and Google Chrome(Latest Version) and other compatible browsers . Plug-in required for full functionality
		Bit Rate Control	Shall have options for Bit Rate Control and Quality Control
3	Electrical	Ports	RJ45 for 1000Base-TX, DC Input jack, Jack for external I/O, Port for test video output
		Network Cable Type	CAT5 or better for 1000Base-TX
		Power Input	12 VDC/Power-over-Ethernet 48 VDC, Power over Ethernet (PoE), IEEE standard 802.3af
		Power Consumption	Maximum 9 W (PoE 48 VDC) / 8 W (DC 12 VDC)
4	Mechanical	Camera Mount	Surface mount
		Housing Material	Aluminum with transparent bubble
5	Environmental	Operating Temperature	Range -20 to +50° C
		Operating Humidity	Up to 95% non-condensing
		Ingress Protection	IP67/IP66
		Impact Resistance	IK10
6	Certifications	Standards And Approvals	IEEE802.3af, CE, AS/NZS CISPR 22:2009+A1:2010, FCC, ICES-003, CU, RCM, UL 60950-1(ed.2) & CAN/CSA C22.2No. 60950-1-07, RoHS, IP66/67, IK10 and ONVIF Compliant

16 Channel NVR

Sl. No	Item Description	Detailed Specification
1	16 Channel NVR	16ch 1080P IP cameras inputs; Supports recording at Full Resolution & high quality at highest bit rate for all channels at a time.
2	Resolution	Resolution 1920×1080, 1280×1024, 1280×720, 1024×768; Display Split 1/4/8/9/16; Recording Compression H.264 Version 3 / MJPEG Resolution 1080P(1920×1080) / 720p;
3	Codec	H.264 Version 3/MJPEG dual codec decoding

Sl. No	Item Description	Detailed Specification
4	Audio / Video	1/1ch Mic in/out; 4ch sync real-time playback; Two-way Talk 1 channel Input, 1 channel Output; HDMI,VGA output,1 BNC output; 16ch alarm in & 4ch relay out,RS485
5	Storage	Min. 8 SATA hard disk ports, each shall supports a hard disk with capacity min. 4TB. 2 USB, RJ45 (1000M);
6	Video Detection & Alarm	Shall have Video Motion Detection and Alarm Feature on events such as Video Loss & Camera Blank
7	Playback & Backup Features	Sync Playback. Search Mode Time/Date, Alarm, Motion detection with simultaneous search options; Digital Zoom; Backup Mode USB Device / Network
8	Network	Ethernet : Min. 2 nos. RJ-45 port (1000M); Network Protocols: HTTP, TCP/IP, IPv4/IPv6, UPNP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPOE, DDNS, FTP, Alarm Server, IP Search(Support IP camera, DVR, NVS and etc.); Support Multicast
9	Auxiliary Interface	USB 2 ports USB2.0; RS232 1 port, For PC communication & Keyboard; RS485 1 port, For PTZ control
10	Power	Power Supply AC220V; Power Consumption: Max. 40W(without HDD) Working Environment -10 -+55°C / 10-90%RH
11	Compliant / Certification	CE, FCC, EMC & ROHS certification and UL certification for Core Adaptor are mandatory; and ONVIF Compliant

4 TB Surveillance Hard Disk

Sl. No	Item Description	Detailed Specification
1	Capacity	4TB
2	Interface	Sata 6GB/s
3	Max Sustainable Transfer Rate	180MB/s
4	Cache	64Mb
5	Bytes per sec	4096
6	Operating (ambient, min)	0 deg C
7	Operating(drivecase, Max)	70 deg C

32" LED TV (Display Device)

Sl. No.	Item Description	Detailed Specification
1	Screen Size	32" LED Display Full HDTV, Flat Type
2	Industrial Grade	Yes
3	Resolution	1920x1080
4	Motion Rate	60
5	Audio	Dolby Digital Plus / Dolby Pulse
6	Connectivity	2 HDMI port, 1 No. of USB Port

Sl. No	Item Description	Detailed Specification	
7	Power Supply	1. Power Supply: 220-240V	
		2. Power Consumption: 64W	
8	Environment	ENERGY STAR compliant	
9	Wide Colour Enhancer	Yes	
10	Standard Remote Controller	Yes	
11	Power Cable	Yes	
12	Other Accessories	Wall Mount kit/Table Stand kit, HDMI Cable, Quick Setup Guide, warranty card, application CD, D-sub cable, power cord and Other accessories	
Unmanaged Network Switch (16 port)			
Sl. No.	Item Description	Detailed Specification	
1	Architecture	Type	Unmanaged Network Switch
2		Ports	16 RJ-45 connectors for 10BASE-T/100BASE-TX/1000BASE-T ports
3		Network Cables Support	Unshielded Twisted Pair(UTP) Cat.5/ better .
4	Performance	Non-Blocking Architecture	The Switch shall have Non-blocking wire speed switch fabric, with Auto MDI/MDIX crossover for all ports
5		Switching capacity	The Switch shall have Min. 32Gbps Back plane or higher
6		MAC Address Table	The Switch shall support Min.8K MAC address
7		Max. Forwarding Rate	The Switch should have Maximum forwarding rate of 23.81 mpps
8	Functionality	QoS (Quality of Service)	802.1p priority based, Min 4 queues, priority queuing.
9		Cable Diagnostics	Shall Quickly identify and troubleshoot network cable faults
10	Physical Features	Indicator LEDs	Shall have Power LED (per device) and Link/Activity/Speed LEDs (per port)
		Mounting options	Rack Mount
		Operating Temperature	Shall have range between 0 to 40 °C
		Storage Temperature	Shall have range between -10 to 70 °C
11	Standards	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3z Gigabit Ethernet, IEEE 802.3x Flow Control, 802.1p priority, Energy Efficient Ethernet.	
12	Certificates	Shall have Standards i.e. UL ,CSA, CE mark, FCC Class A, FCC Class B	
Media Convertor (Box Type)			
Sl. No.	Item Description	Detailed Specification	
1	Function	100 Base-FX to 100 Mbps Tx Single mode media convertor Distance Support: min. 15km	

Sl. No	Item Description	Detailed Specification
		1 RJ-45 port and 1 fibre port (SC type connector) Full wire speed forwarding rate
2	Type	Industrial Grade
3	Operating Temperature	0 deg. C to +60deg.C
4	Operating Humidity	Up to 95% non-condensing
5	Mounting Kit	Included
6	Data Transfer Rate	Min. 1 Gbps
7	Compliant Standards	IEEE 802.3, IEEE 802.3ab, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z
8	Status Indicators	LED status indicators should be there
9	Features	Auto Cross/ Link Fault Pass Through function (LFP)/LLR /auto-negotiation

Fiber Patch Cords

Should be pre-moulded, connectorized, SC-LC Type

PoE Injector or Power Injector

Sl. No.	Item Description	Detailed Specification
1	Type	Industrial Grade
2	Compliance	IEEE 802.3af compliant Supports half/full-duplex operation IEEE 802.3 compliant IEEE 802.3u compliant IEEE 802.3ab compliant 10/100/1000BASE-T port
3	Gigabit Connectivity	Power Over Ethernet (PoE) Injector for 10/100/1000T connections delivers power up to 100 metres
4	Power Consumption	19.2 watts max
5	Operating Temperature	0 to 50 °C
6	Humidity	10-90% non-condensing
7	Certifications	Should have CE/FCC/VCCI/IC/UL Certifications

0.6 KVA Interactive UPS with Batteries

Sl. No.	Features	Detailed Specification
1	Technology	600VA with built-in automatic voltage regulator
2	Capacity	600VA
3	Input	a. Voltage Range : 145-290volts or better b. Frequency Range : 50Hz +/-10%
4	Batteries	a. Type SMF12 V of 7AH type Leak Proof b. Backup Time Minimum 10 Minutes

Sl. No	Item Description	Detailed Specification
5	Output	a. Voltage : 220volts c. Transfer Time less than 10millisecond d.Sockets : Adequate Nos. of sockets with surge protection feature e.Frequency : 50Hz +/- 10%Hz
6	General Features	Lightning & Surge Protection Output Wave form— Modified/Stepped Sine wave Audio Alarms: Low Battery; Battery ON; Overload Protection feature should be there
7	Environment	a. Operating Temperature : 0-40 deg C b.Humidity : 0-90% non-condensing
9	Certification	ISO/CE certification should be there
6U NETWORK RACK		
Sl. No	Features	Detailed Specification
1	Standards	Standard EIA/NEMA rails
2	Door	Front Glass Door with Lock
3	Fan	airflow fans with adjustable
4	power sockets	power sockets
5	mounting rails	fully adjustable mounting rails
6	cable entry facility	Ventilated Top cover and Bottom cover with cable entry facility
7	industry standard	Conforming to industry standard practices
8	mounting shelf	Equipment mounting shelf with a depth of 600mm and 1U height
Surge Protector		
Sl. No.	Item Description	Detailed Specification
1	Purpose	Power over Ethernet Surge Protector for isolated ground protection at camera end
2	Operating Voltage	48VDC
3	Operating Current	0.75 Amps
4	Peak Surge Current	10kA
5	Transmission speeds	10BaseT/100BaseT/1000BaseT
6	SPD Technology	Gas Discharge Tube
7	Connectors	RJ45 Connection
8	Certifications	UL/IEC approved
9	Dimensions	As per requirement of the cameras
6 Core Armoured FO Cable (Single Mode, Multi-Core)		
Sl. No.	Features	Detailed Specification
1	Cable Type	Minimum Single Mode 6 (six) core Optical Fiber, 9/125 ^μ m, armoured outdoor type application.
2	Type	Industrial Grade
3	Armoured	Corrugated Steel Tape (CST) Armoured of min. 0.125 mm thickness
4	Standards	OFC should be TEC approved. The Vendor has to submit the Manufactures test reports along with OFC, Make with ISI mark.
CAT6 STP Cables (Outdoor)		
Sl. No.	Features	Detailed Specification

Sl. No	Item Description	Detailed Specification
1	Type	Unshielded Twisted Pair, Category 6, TIA / EIA 568-B.2, STP Cable; should be of Industrial Grade
2	Networks Supported	Gigabit Ethernet (1000 Base-T and 1000 Base-TX) and above.
3	Type Of Conductors	4 pair 23 AWG Conductors
4	Insulation	Polyethylene
5	Jacket	Flame/Fire Retardant PVC
9	Temperature	Up to 60deg C
10	Approval	a. UL Listed b. ETL verified to TIA / EIA Cat 6

CAT6 STP Cable (Indoor)

Sl. No.	Features	Detailed Specification
1	Type	Unshielded Twisted Pair, Category 6, TIA / EIA 568-B.2, STP Cable; should be of Industrial Grade
2	Networks Supported	Gigabit Ethernet (1000 Base-T and 1000 Base-TX) and above.
3	Type Of Conductors	4 pair 23 AWG Conductors
4	Insulation	Polyethylene
5	Jacket	Flame/Fire Retardant PVC
9	Temperature	Up to 60deg C
10	Approval	c. UL Listed d. ETL verified to TIA / EIA Cat 6

1.1KV Armoured CU-Power Cables

Sl. No.	Features	Detailed Specification
1	Model	3 Core 2.5 Sq.mm Armoured Copper Cable
2	Type	Industrial Grade
3	Voltage Rating	Up to and including 1100 Volts
4	Type of Conductor	Copper
5	No of cores	3
6	No. of strands/core	7(multi)
7	Colour code	Red/Yellow/Blue
8	Construction	2.5 sq.mm multi stranded annealed bare electrolytic grade, Conductor Resistance < 7.5 Ohms/Km
9	Primary Insulation	Extruded PVC compound as per IS 5831 type C
10	Inner sheath	Extruded PVC Compound type ST2
11	Armoured Material	Galvanised steel wire
12	Outer sheath	Extruded PVC Compound type ST2

Outdoor Junction Box

Sl. No.	Detailed Specification	
1	Purpose/Size	All the equipment's except the cameras shall be accommodated in the junction box, which is to be mounted on same pole.
2	Mount	Pole/Wall mount with all mounting accessories

Sl. No	Item Description	Detailed Specification
3	Industrial Grade	Yes
4	Conformance	Weather proof with min. IP65 rated
5	Basic Features	<p>It shall be weather proof so as to withstand the dust and high temperature climate of the plant.</p> <p>For terminating all cables the junction box should have suitable terminating block or connections with proper locking arrangement.</p> <p>All the cables shall be clamped with suitable clamp to avoid the damage of the core / conductors due to cables weight. The cable inlet points at junction box should be water proof by providing rubber linings with sealing compound.</p> <p>4. Grounding provision and locking facility for junction box shall be there</p>
6	Accessories	<p>. Toughened glass window in the front door</p> <p>. Wide range of terminals and terminal blocks to accommodate UPS, Media Converter, LIU Panel/all the equipment's except the cameras.</p> <p>c. Natural and forced fan cooling system</p> <p>d. Customized cut outs on door, mounting plate</p> <p>e. CFL Light</p> <p>f. Stainless steel studs for grounding</p> <p>g. Min. 2mm thick mounting plate</p>
Pole (For Outdoor Cameras)		
Sl. No.	Features	Specifications
1	Pole Location	OPTCL Grid S/S
2	Material	GI-Tubular
3	Standard	ISI
4	Pole Height	<p>. The pole height shall be 12 metres above the ground for which a necessary foundation shall be made if required(The pole shall be 12 meters from Ground and 3 meter deep in Ground)</p> <p>. In case height lesser than 12 meter above the ground is required then bottom (broader) portion of the pole shall be cut accordingly. The dome of the camera shall be tightly secured against the pole in such a way that even during the high speed wind the dome shall not shake / vibrate, thus the camera output shall be jitter free during such time also.</p>
5	Mounting	<p>. 13 mm thickness plate - Bottom Surface in earth avoid the shaking.</p> <p>. To be concrete structure in the ground in 3 Meter depth.</p> <p>. to be concrete structure above the ground half meter</p>
6	Type of installation	Industrial
7	Security Features	Internal Cabling with door at the bottom(door with lock & key facility)

Sl. No	Item Description	Detailed Specification
8	General Features	. Pole should be fabricated from MS, weather proof & powder coated painted. b. Should have provision of lightening arrester c. 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.
9	Other Provision	Junction box Mounting provision, cable wiring provision internal to the pole with suitable opening(IN/OUT)
10	Environment	Should Withstand cyclonic storms

Display Monitor Desk

Monitor Desk for placing the NVR, 32" LED Display Monitor and UPS. The Monitor Desk shall have the Lock & Key Shelf (Min. 2 Nos.) and Keyboard Shelf, Cable Guide Hole

Pole Mount Brackets, Camera Holder, LIU Box Holder, LIU-Box with Accessories(6/12port adaptor plate, pigtail)

Sl. No.	Detailed Specification	
1	Purpose/Size	The above items are should be fabricated as per the site requirement for proper integration of the system.

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 connectors, etc. 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

E. SECTION-V

FORMS & SCHEDULES

I. SCHEDULE-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 “Implementation of IP Based CCTV Surveillance System at 8 Nos. of SAS Based OPTCL Grid Sub-Substations” in conformity with the said Bidding Documents and 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, 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

MANUFACTURER'S AUTHORISATION FORM

(To be obtained from all OEMs on OEM's Letter Head)

Date:

NITRefNo.:

RFP No.:

To
O/O Chief General Manager (IT)
Odisha Power Transmission Corporation Limited
3rd Floor, Corporate Building, OPTCL,
Janpath, Bhoi Nagar, BHUBANESWAR, Odisha 751022

WHEREAS _____ who are official Manufacturers/OEM of _____ having factories/registered office at _____ do hereby authorizes to submit a Bid in relation to the above NIT Ref No: & RFP Ref. No: _____ indicated above, the purpose of which is to provide the following Goods, manufactured by us and to subsequently negotiate and sign the Contract.

We hereby extend our full Support, guarantee and warranty in accordance with SECTION-III.1.XVI of the General Conditions of Contract, with respect to the Goods offered by the above firm in response to above NIT Ref No. /RFP Ref No.

Name _____

In the capacity of: _____

Signed Duly authorized to sign the Authorization for and on behalf of _____

Date _____

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 (Supply Component)

#	Name of the equipment	Country of Origin	Qty	UOM	Unit Price	GST (%)	IGST Amt	CGST Amt	SGST Amt	Total GST	Unit Price including Total GST	Total Price
1	2	3	4	5	6	7	8	9	10	11 = 8 or (9+10)	12 = 6+11	13 = 11*4
1	Outdoor PTZ Camera(with PTZ camera housing, gooseneck stand-wall mount bracket, heater & blower and power supply/ adaptor)		26	Nos.								
2	Outdoor Fixed Camera (with fixed camera housing and power injector)		4	Nos.								
3	Indoor Dome Camera (with power injector for dome camera)		9	Nos.								
4	Fish Eye Camera with necessary accessories		3	Nos.								
5	16 Channel NVR with 2 SATA for 2nos. of HDD (with additional mouse and keyboard)		8	Nos.								
6	4 TB Surveillance HDD		14	Nos.								
7	16 Port Unmanaged		8	Nos.								

Implementation of IP Based CCTV Surveillance System at 8 numbers of SAS Based OPTCL Grid Sub-Substations – Phase 1

#	Name of the equipment	Country of Origin	Qty	UOM	Unit Price	GST (%)	IGST Amt	CGST Amt	SGST Amt	Total GST	Unit Price including Total GST	Total Price
	Network Switch											
8	32" LED Display		8	Nos.								
9	Media Convertor (Box Type)		16	Nos.								
10	600 VA Interactive UPS		42	Nos.								
11	Surge Protector for Outdoor Cameras		26	Nos.								
12	Fiber Patch Cords		16	Nos.								
13	6 Core Armoured Fiber Optic Cable		900	Mtrs.								
14	CAT6 STP Cable (Outdoor)		1500	Mtrs.								
15	CAT6 STP Cable (Indoor)		330	Mtrs.								
16	HDPE Conduit Pipe for FO with necessary accessories		900	Mtrs.								
17	PVC Conduit Pipe for CAT6 with necessary accessories		1830	Mtrs.								
18	1.1 KV Armoured Cu-Power Cable		650	Mtrs.								
19	Outdoor Junction Box		26	Nos.								
20	Pole		20	Nos.								
21	Pole Mount Brackets		26	Nos.								
22	Camera Holder, LIU Box Holder		26	Nos.								
23	LIU-Box with Accessories(adaptor plate, pigtail, etc)		16	Nos.								
24	6U Network Rack		4	Nos.								

Implementation of IP Based CCTV Surveillance System at 8 numbers of SAS Based OPTCL Grid Sub-Substations – Phase 1

#	Name of the equipment	Country of Origin	Qty	UOM	Unit Price	GST (%)	IGST Amt	CGST Amt	SGST Amt	Total GST	Unit Price including Total GST	Total Price
25	Display Monitor Desk		8	Nos.								
26	Other necessary items like casing & capping for UTP and power cables etc.		8	Lump sum								
27	Installation & Commissioning cost		8	Lump sum								
28	Electrical Cabling & Other Miscellaneous Work as per site requirement		8	Lump sum								
	Total Price											
	Total Price in Rupees											

(c) PRICE BID for Comprehensive Annual Maintenance Contract for 3 years for all the 8 Numbers of Grid Sub-Stations

#	Name of the Work	Basis of Price	Unit Price For each quarter	GST (%)	IGST Amt	CGST Amt	SGST Amt	Total GST	Unit Price for each quarter including Total GST	Total Price for 3 years
1	2	3	4	5	6	7	8	9 = 6 or (7+8)	10 = 4+9	11 = 10*12 quarters
1	Comprehensive AMC Support Charges for 3 years for all the 8 nos. of Grid Sub-Stations	Lump sum								
Total Price										
Total Price in Rupees										

Note:

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

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. :
- 4 Mobile No. :
- 5 Fax :
- 6 Telex :
- 7 Place of incorporation/ registration :
- 8 Year of incorporation/ registration :

Nationality of owners		
Sl. No.	Name	Nationality
1.		
2.		

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.	<p>Details of Testing facilities available</p> <p>a) List testing equipment available</p> <p>b) Give details of tests, which can be carried out on items offered.</p> <p>c) Details of testing organization available</p>	
8.	<p>Personnel/Organization: (Give Organization chart for following indicating clearly the Nos. of employees at various levels)</p>	
	<ol style="list-style-type: none"> 1. Quality Assurance 2. Production 3. Marketing 4. Service 5. Spare parts 6. Administrative 	
9.	<p>Nearest service centres to each of the destination installations:</p> <p>Location:</p> <p>Phone No.:</p> <p>Year of Establishment:</p>	
10.	<p>Details of Organization at Service Centre</p> <p>a) No. of skilled employees:</p> <p>b) No. of Unskilled employees:</p> <p>c) No. of Engineering employees</p> <p>d) No. of Administrative employees</p> <p>e) List of special repair/workshop facilities available</p> <p>f) Storage space for spare parts (sq. m.)</p> <p>g) Value of minimum stock of spares available at all the service centres in respective currency</p> <p>h) Value of the modes/types by number of equipment serviced by the centre in last two years</p>	

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)

Date:

(Signature)

Place:

(Printed Name)

(Designation)

(Common

Seal).....

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

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).....

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

vi. Details of Service Support

SERVICE CENTRE AT BHUBANESWAR									
Location with Detail Address:									
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 Firms serviced in last two (2) years

Date:

Place:

(Signature)

(Printed Name)

(Designation)

(Common Seal).....

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

V. SCHEDULE-E (No Deviation Certificate)

To:
Chief General Manager (IT)
Odisha Power Transmission Corporation Limited
3rd Floor, Corporate Building, OPTCL,
Janpath, Bhoi Nagar,
BHUBANESWAR, Odisha 751022

Dear Sir,

We, the undersigned, hereby declare that while responding to your RFP Notice No. dated, our bid response DOES NOT DEVIATE from the Tender Document and their amendment/corrigendum issued till the date of bid submission except for non-material deviations as per the Format detailed in SECTION-II.(1).III.

Name:
In the capacity of:
Signed
Duly authorized to sign the Bid for and on behalf of
Date

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

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 (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 Clearance, PAN and GST Registration 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) & CAMC clause	Agreed/Not agreed	
10	Onsite management of IP Based CCTV Surveillance System for entire contract period	Agreed/Not agreed	
11	Service Centre at Bhubaneswar	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	Procurement orders in India with supporting documents as specified in the tender	Submitted/ Not submitted.	
16	Authorized manufacturer ship and System Integrator certificate	Submitted/ Not submitted	
17	Original data sheets for all items	Submitted/Not submitted	
18	Driver software, wherever applicable, to be supplied	Agreed/Not agreed.	
19	A vendor must quote all the items	Agreed/Not agreed.	
20	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

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.

VIII. SCHEDULE-H (APPROVED MAKE, QUOTED MAKE & MODEL)

#	Item	UOM	Qty	Make	Quoted Make	Quoted Model
1.	Outdoor PTZ Camera(with PTZ camera housing, gooseneck stand-wall mount bracket, heater & blower and power supply/ adaptor)	Nos.	26	Sony/Pelco/Bosch/ Honeywell/ Axis/ Infinova		
2.	Outdoor Fixed Camera (with fixed camera housing and power injector)	Nos.	4	Sony/Pelco/Bosch/ Honeywell/ Axis/ Infinova		
3.	Indoor Dome Camera (with power injector for dome camera)	Nos.	9	Sony/Pelco/Bosch/ Honeywell/ Axis/ Infinova		
4.	Fish Eye Camera with necessary accessories	Nos.	3	Sony/Pelco/Bosch/ Honeywell/ Axis/ Infinova		
5.	16 Channel NVR with 2 SATA for 2nos. of HDD (with additional mouse and keyboard)	Nos.	8	Sony/Pelco/Bosch/ Honeywell/ Axis/ Infinova		
6.	4 TB Surveillance HDD	Nos.	14	Seagate/WD		
7.	16 Port Unmanaged Network Switch	Nos.	8	Cisco/ HP/ Allied Telesis/ Juniper /Brocade		
8.	32" LED Display	Nos.	8	Samsung/ Sony/ LG		
9.	Media Convertor (Box Type)	Nos.	16	Phoenix/ Moxa /Allied Telesis/ Perle		
10.	600 VA Interactive UPS	Nos.	42	APC/ Emerson-Liebert; Battery-Exide/ Amron		
11.	Surge Protector for Outdoor Cameras	Nos.	26	Emersion/ CITEL		
12.	Fiber Patch Cords	Nos.	16	Molex/TE/ Systimax / Krone		
13.	6 Core Armoured Fiber Optic Cable	Mtrs.	900	Molex/TE/ Systimax/ Krone		

#	Item	UOM	Qty	Make	Quoted Make	Quoted Model
14.	CAT6 STP Cable (Outdoor)	Mtrs.	1500	Molex/TE/ Systimax/ Krone		
15.	CAT6 STP Cable (Indoor)	Mtrs.	330	Molex/TE/ Systimax/ Krone		
16.	HDPE Conduit Pipe for FO with necessary accessories	Mtrs.	900	Standard		
17.	PVC Conduit Pipe for CAT6 with necessary accessories	Mtrs.	1830	Standard		
18.	1.1 KV Armoured Cu-Power Cable	Mtrs.	650	Polycab/Havells/ V-Guard		
19.	Outdoor Junction Box	Nos.	26	Standard		
20.	Pole	Nos.	20	Standard		
21.	Pole Mount Brackets	Nos.	26	Standard		
22.	Camera Holder, LIU Box Holder	Nos.	26	Standard		
23.	LIU-Box with Accessories(adaptor plate, pigtail, etc)	Nos.	16	Standard		
24.	6U Network Rack	Nos.	4	Valrack/ Netrack/ APW President / Rittal		
25.	Display Monitor Desk	Nos.	8	Standard		
26.	Other necessary items like casing & capping for UTP and power cables etc.	Lump sum	8	Standard		

Signature with Date

Name in Block Letters

Seal of the Company

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

IX. SCHEDULE-I (LIST OF CONSIGNEE)

#	Name of the equipments	Kendrapada	Jajpur Road	Infocity-II	Chandaka-B	Argul	Konark	Kesura	Shamuka	Total	UOM
1	Outdoor PTZ Camera(with PTZ camera housing, gooseneck stand-wall mount bracket, heater & blower and power supply/ adaptor)	4	5	3	2	4	2	3	3	26	Nos.
2	Outdoor Fixed Camera (with fixed camera housing and power injector)	0	1	1	0	0	1	1	0	4	Nos.
3	Indoor Dome Camera (with power injector for dome camera)	1	1	1	2	1	1	1	1	9	Nos.
4	Fish Eye Camera with necessary accessories	0	0	1	2	0	0	0	0	3	Nos.
5	16 Channel NVR with 2 SATA for 2nos. of HDD (with additional mouse and keyboard)	1	1	1	1	1	1	1	1	8	Nos.
6	4 TB Surveillance HDD	2	2	2	2	2	1	2	1	14	Nos.

#	Name of the equipments	Kendrapada	Jajpur Road	Infocity-II	Chandaka-B	Argul	Konark	Kesura	Shamuka	Total	UOM
7	16 Port Unmanaged Network Switch	1	1	1	1	1	1	1	1	8	Nos.
8	32" LED Display	1	1	1	1	1	1	1	1	8	Nos.
9	Media Convertor (Box Type)	4	4	8	0	0	0	0	0	16	Nos.
10	600 VA Interactive UPS	6	7	5	4	6	4	5	5	42	Nos.
11	Surge Protector for Outdoor Cameras	4	5	3	2	4	2	3	3	26	Nos.
12	Fiber Patch Cords	4	4	8	0	0	0	0	0	16	Nos.
13	6 Core Armoured Fiber Optic Cable	300	300	300	0	0	0	0	0	900	Mtrs.
14	CAT6 STP Cable (Outdoor)	200	150	100	150	300	200	200	200	1500	Mtrs.
15	CAT6 STP Cable (Indoor)	50	30	30	100	30	30	30	30	330	Mtrs.
16	HDPE Conduit Pipe for FO with necessary accessories	300	300	300	0	0	0	0	0	900	Mtrs.
17	PVC Conduit Pipe for CAT6 with necessary accessories	250	180	130	250	330	230	230	230	1830	Mtrs.

#	Name of the equipments	Kendrapada	Jajpur Road	Infocity-II	Chandaka-B	Argul	Konark	Kesura	Shamuka	Total	UOM
18	1.1 KV Armoured Cu-Power Cable	100	50	100	100	80	60	100	60	650	Mtrs.
19	Outdoor Junction Box	4	5	3	2	4	2	3	3	26	Nos.
20	Pole	2	5	4	0	4	2	3	3	20	Nos.
21	Pole Mount Brackets	4	6	4	2	4	3	4	3	26	Nos.
22	Camera Holder, LIU Box Holder	4	6	4	2	4	3	4	3	26	Nos.
23	LIU-Box with Accessories(adaptor plate, pigtail, etc)	4	4	8	0	0	0	0	0	16	Nos.
24	6U Network Rack	0	0	1	1	0	1	0	1	4	Nos.
25	Display Monitor Desk	1	1	1	1	1	1	1	1	8	Nos.
26	Other necessary items like casing & capping for UTP and power cables etc.	1	1	1	1	1	1	1	1	8	Lump sum