

**TENDER CALL NOTICE NO.**  
**31/JM/ ELECT /OSPHWC/2020-21**

**BID DOCUMENT**  
**FOR**

**SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CCTV WITH**  
**AUDIO & VIDEO**

**NAME OF THE WORK**

**SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CCTV WITH**  
**AUDIO & VIDEO AT DIFFERENT COURT BUILDINGS THROUGHOUT ODISHA**



**JOINT MANAGER**  
**[ELECTRICAL DIVISION]**

The Odisha State Police Housing & Welfare Corporation Ltd., Janpath,  
Bhoi Nagar, Bhubaneswar - 22.

THE ODISHA STATE POLICE HOUSING & WELFARE CORPORATION LTD.  
**JANAPATH, BHOINAGAR, BHUBANESWAR – 22.**



[Electrical Division]

Ph: 0674-2541545, 2542921, Fax: 0674-2541543

E-mail: [jmelectricalophwc@gmail.com](mailto:jmelectricalophwc@gmail.com), Website: [www.ophwc.nic.in](http://www.ophwc.nic.in)

**TENDER CALL NOTICE**

**BID REFERENCE NO: -31/JM / ELECT / OPHWC/ 2020-21**

<b>INVITATION FOR BIDS (IFB)</b>	
1.	The Joint Manager, Electrical Division (OSPH&WC), Odisha, Bhubaneswar invites percentage rate bids in double cover system for works as detailed below: -
2.	Nature of work : CCTV work.
3.	No. of Work : 15 Nos
4.	Value of Tender : Rs.29,82,480.00 for each project
5.	EMD & Bid Cost : (As per column 4 & 5 of the IFB)
6.	Eligibility Criteria: - : Contractors / Firms enlisted under OSPH&WC for executing CCTV and different CCTV related works. (As per the Working Range)
7.	Availability of Bid Documents in the Website <a href="http://www.ophwc.nic.in">www.ophwc.nic.in</a> : Dt.16.12.2020 to Dt.30.12.2020 up to 5:00 P.M.
8.	Last date /time of Receipt of Bids : Dt.05.01.2021 up to 12:30 P.M
9.	Date of Opening Technical Bid : Dt.05.01.2021 at 03:30 P.M.
10.	<b>The bidders may ask questions through e-mail (<a href="mailto:jmelectricalophwc@gmail.com">jmelectricalophwc@gmail.com</a>) from Dt.18.12.2020 to 5.00 P.M. of Dt.22.12.2020 related to the tender for clarification.</b>
11.	Date of Opening Financial Bid : After evaluation of the Technical bids date & time of opening of Financial bids will be intimated to the Technically qualified bidders through letter/e-mail.
12.	Further details can be seen from the website: <a href="http://www.ophwc.nic.in">www.ophwc.nic.in</a> Any addendum/corrigendum/cancellation of tender can also be seen in the said website.
<p><b>Sd/-</b>  <b>Joint Manager (Elect)</b>  <b>OSPH&amp;WC, Bhubaneswar.</b></p>	

**COVER-I**  
**TECHNICAL BID DOCUMENTS**

THE ODISHA STATE POLICE HOUSING & WELFARE CORPORATION LTD.  
**JANAPATH, BHOINAGAR, BHUBANESWAR – 22.**



[Electrical Division]

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**TENDER CALL NOTICE**

**BID REFERENCE NO: -31/JM/ ELECT /OPHWC/2020-21**

**INVITATION FOR BIDS (IFB)**

1. The Joint Manager, Electrical Division, The Odisha State Police Housing & Welfare Corporation Ltd., Bhubaneswar invites Percentage Rate bids in double cover system for Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video as detailed in the table/ Technical bid & Finance bid from the contractors / Firms enlisted under OSPH&WC to execute the CCTV and different CCTV related works. Every bidder is expected to inspect the site of proposed work before quoting their rates.
2. The bidders may submit bids for the following works separately for each project.

Sl. No	Name of the work	Approximate Estimated Cost (Rs.)	EMD/Bid Security (Rs.)	Cost of Bid Document Inclusive of 18% towards GST (Rs.)	Period of completion	Working Range
1	2	3	4	5	6	7
Single Cover (NOTICE NO :-31/ JM/ ELECT / OPHWC/ 2020-21)						
1	Supply, Installation, Testing and Commissioning of Close Circuit Cameras with Audio & Video at Court Building for Gram Nyayalaya at Bhogarai in the Judgeship of Balasore in the district of Balasore.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14)	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
2	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Chandabali in the Judgeship of Bhadrak in the district of Bhadrak.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14)	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above

3	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C & Gram Nayalaya at Dhamnagar in the Judgeship of Bhadrak in the district of Bhadrak.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
4	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Tigiria in the Judgeship of Cuttack in the district of Cuttack.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
5	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for Gram Nayalaya at Odapada in the Judgeship of Dhenkanal in the district of Dhenkanal.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
6	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Sheragarh in the Judgeship of Ganjam in the district of Ganjam.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above

7	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Kabisuryanagar in the Judgeship of Ganjam in the district of Ganjam.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
8	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Aul in the Judgeship of Kendrapara in the district of Kendrapara.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
9	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for Gram Nayalaya at Tangi in the Judgeship of Khurda in the district of Khurda.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
10	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Bhapur in the Judgeship of Nayagarh in the district of Nayagarh.	29,82,480.00  (Exclusive of GST i:e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above

11	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for Gram Nayalaya at Ghasipura in the Judgeship of Keonjhar in the district of Keonjhar.	29,82,480.00 (Exclusive of GST i.e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
12	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C & Gram Nayalaya at Semiliguda in the Judgeship of Koraput in the district of Koraput.	29,82,480.00 (Exclusive of GST i.e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
13	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at M. Rampur in the Judgeship of Kalahandi in the district of Kalahandi.	29,82,480.00 (Exclusive of GST i.e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
14	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Kesinga in the Judgeship of Kalahandi in the district of Kalahandi.	29,82,480.00 (Exclusive of GST i.e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above

15	Supply, Installation, Testing & Commissioning of Close Circuit Cameras with Audio & Video at Court Building for J.M.F.C at Charichhak in the Judgeship of Boudh in the district of Boudh.	29,82,480.00 (Exclusive of GST i.e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14)	29,825.00	7080.00	The work should be executed simultaneously with the building construction work and completed along with the completion of the building.	Up to 50 lakhs & Above
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N.B.- Since provision of VAT, Entry Tax and other taxes have been replaced by GST w.e.f 01/07/2017, the quoted rate should be Inclusive of all but exclusive of GST i.e @18% for Item Sl.No-1 to 22 except 14 & @ 28% for Item Sl.No-14.

### **Requirements under Goods & Service Tax Act.**

The supplier of goods or service or both shall submit the tax invoice for release of payment and the tax invoice should include all the particulars and contents as required under section-31 of the CGST/SGST/IGST/UTST Act, 2017 read with rules made there under, including the followings:

- a. Correct Name, Address & GST No. of both the Supplier and recipient.
  - b. "Tax Invoice" should be clearly mentioned on the invoice copy.
  - c. GST should be clearly mentioned separately.
  - d. Correct classification of supply of goods, services or both should be made.
  - e. Nature of supply whether it is interstate or intra state should be mentioned.
  - f. Place of supply should be mentioned.
  - g. Prevailing rate of tax should be clearly mentioned.
  - h. Levy of Tax whether as forward charge or reverse charge should be mentioned.
  - i. The supplier shall submit a original copy of Tax Invoice to the Corporation (OSPH&WC).
- A. The supplier shall declare that the tax so collected from the Corporation will be duly discharged either by using input tax credit or paid as per provisions under GST Act.
  - B. The supplier shall declare that the supply date as mentioned in the invoice will be disclosed correctly in the relevant monthly return (such as GSTR-1, GSTR-2, GSTR-3, GSTR-3B and other relevant forms).
  - C. The supplier shall also agree that he will compensate for input tax credit if not allowed to Corporation due to non-disclosure or improper disclosure in the aforesaid returns as required under GST Act.
  - D. If the supplier is unregistered under GST Act., in that case the supplier should submit an undertaking that his turnover is within the threshold limit.
  - E. Anti-profiteering clause. : The supplier should declare that the benefit on account of change of rate of GST and input tax credit will be passed on to Corporation by way of reducing the contact prices and there shall not be any double taxation.
  - F. As and when GST Law requires deduction of withholding tax i.e., TDS under section 51 of GST Law, Corporation shall deduct such tax as per prevailed provisions.
  - G. Supplier of goods shall issue way bill as and when required as per provisions of GST law for supply of goods.

3. Bid documents consisting of specifications, the schedule of quantities and the set of terms and conditions of contract and other necessary documents can be seen in the website: [www.ophwc.nic.in](http://www.ophwc.nic.in)
4. The tender document will be available from the web site [www.ophwc.nic.in](http://www.ophwc.nic.in) and the same may be downloaded to be used for tender offer. The bidder shall carefully go through the tender and prepare the required documents. The bid shall have a Technical Bid & a Financial Bid. The Technical bid generally consist of cost of Bid documents as mentioned in the Column- 5 of the above table in shape of Demand Draft / Pay Order drawn on any Scheduled Bank in favor of the “The Odisha State Police Housing & Welfare corporation Ltd, Bhubaneswar.” payable at Bhubaneswar, EMD/Bid Security as mentioned in the Column- 4 of the above table in shape of D.D. / Pay order / F. D (pledged in favour of “The Odisha State Police Housing & Welfare corporation Ltd, Bhubaneswar.”) drawn on any Scheduled Bank in favor of the “The Odisha State Police Housing & Welfare corporation Ltd, Bhubaneswar.” payable at Bhubaneswar, proof of executing same nature of work with copy of work order and completion certificates in support of credential, Income tax return copy, PAN card, GST Registration certificate, ESI Registration certificate, EPF Registration certificate, the proof of supporting documents relating to the compliance of the Technical specifications and an affidavit that the firm/contractor is not blacklisted / defaulter contractor or Firm etc. Non-submission of any of the above requisite documents with the Technical bid, the tender shall be rejected. The EMD/Bid Security of the successful bidder will be refunded after completion of the comprehensive warranty period i.e 12 months and will not carry any interest. The EMD of the unsuccessful bidder will be refunded after completion of the tender process. The financial bid shall consist of the Bill of Quantities (BOQ) of the work.
5. The authority will not be held responsible for any technical snag or network failure during downloading the tender documents.
6. The bidders should submit the Technical bid and Financial bid in separate sealed cover and both the sealed covers should be submitted in one sealed cover by post or courier or dropped in the tender Box at the office of the undersigned as well. However, authorities shall not be responsible for postal delays in receipt of bids.
7. After opening of Technical bid, the bidder may be asked in writing to clarify on the submitted documents provided in the Technical Bid, if necessary, with respect to any doubts or illegible documents required for Technical Evaluation. The Officer Inviting tender may ask for any other document of historical nature during Technical Evaluation of the tender. Provided in all such cases, furnishing of any document in no way alters the bidders price bid. Non submission of legible documents may render the bid non-responsive. The authority inviting bid may reserve the right to accept any additional document.
8. After **technical** evaluation of the bids and selection of the qualified bidders, the financial bids of the technically qualified bidders shall be opened in the presence of bidders or their authorized representative who wish to be present on the schedule date & time of opening which will be intimated to the technically qualified bidders through letter/e-mail.
9. The authority reserves the right to reject any or all the bids without assigning any reason thereof and can impose any conditions as deemed proper before finalisation of tender.



**10.** The bidding document should be super scribed “Supply, Installation, Testing & Commissioning of CCTV work , Work serial No. as per IFB, Tender No. & Name of the Project”.

**11.** Bids submitted otherwise than in the manner prescribed in the tender document shall be rejected.

**12. (Revised/substituted as per Works Deptt. Office Memorandum No.12366 dt.8.11.2013)** If the rate quoted by the bidder is less than 15% of the tendered amount, then such a bid shall be rejected and the tender shall be finalized basing on the merits of rest bids. But if more than one bid is quoted at 14.99% (Decimals up to two numbers will be taken for all practical purposes) less than the estimated cost, the tender accepting authority will finalize the tender through a transparent lottery system, where all bidders/their authorized representatives, the Asst. Manager (Acct), Consultant (Elect) and the Joint Manager (Elect) will remain present.

**13. (Amendment to Para 3.5.5(v) Note-ii of OPWD Code Vol-I by modification)**

Note-(II) Additional performance Security shall be obtained from the bidder when the bid amount is less than the estimated cost put to tender .In such an event, the bidders who have quoted less bid price/rates than the estimated cost put to tender shall have to furnish the exact amount of differential cost i.e. estimated cost put to tender minus the work order amount as Additional performance Security in shape of Demand Draft / Term Deposit Receipt pledged in favour of “The Odisha State Police Housing & Welfare corporation Ltd, Bhubaneswar.” payable at Bhubaneswar is to be submitted by the successful bidder who shall deposit the same within seven (7) days of opening of bid failing which the bid of the successful bidder would be cancelled and the security deposit would be forfeited. If permissible in law further proceedings for black listing would be initiated.

**14. WARRANTY -:** The contractor shall stand for comprehensive warranty against defective materials / manufacturing defects and bad workmanship for the entire work carried out by him for a period of 12 months from its handing over to the concerned User Authority (End User) & make good /repair/replace the faults during this period without any extra cost, failing which the same shall be got done at the risk and cost of the contractor. The contractor shall attend the complaints / breakdown relating to the entire work carried out by him on call basis. The work shall be supervised by the qualified supervisor from the contractor’s side.

**15.** The tender document is available from : Dt.16.12.2020

**16.** Last date for issue of tender document is up to : 05.00 PM of Dt.30.12.2020

**17.** Last date for receipt of tender document is up to : 12.30 PM of Dt.05.01.2021

**18.** Date of opening of Technical bid at : 03.30 PM of Dt.05.01.2021

**19.** The bidders may ask questions through e-mail (jmelectricalophwc@gmail.com) from Dt.18.12.2020 to 5.00 P.M. of Dt.22.12.2020 related to the tender for clarification.

**20.** Date of Opening Financial Bid : After evaluation of the Technical bids, date & time of opening of Financial bids will be intimated to the Technically qualified bidders through letter/e-mail.

- 21.** The authority reserves the right to reject any or all the bids without assigning any reason thereof. No claim, whatsoever, shall be admissible for the alleged loss/damages suffered by bidders on account of such rejections.
- 22.** All the information as called for in the tender document should be submitted truly, clearly, legible transparently, unambiguously and without the use of abbreviations. It shall be submitted in English only.
- 23.** All the crucial figures, like rates and amount should be written in figures followed by words in a bracket.
- 24.** There shall be no over writing in the tender document and other papers submitted. All additions, alternations, deletions and cutting should be initialed with rubber-stamp (or seal) by the same person, who signs the tender document, failing which so, the tender may be rejected.
- 25.** After opening of the Financial bid, the original documents of the successful lowest bidder as per requirement of the DTCN will be verified at the offices of the undersigned within 5 (five) working days of opening of the Financial bid.
- 26.** All the rates and amounts shall be quoted in Indian Rupee and shall be presumed to be in Indian Rupee only unless specifically permitted to be quoted otherwise in this tender document.
- 27.** Each page of this tender document should be signed by the bidder with seal in token of having read, understood and accepted the terms and conditions of this contract.
- 28.** Use separate piece of paper where the space provided in the formats in this tender document for submission of information is not sufficient.
- 29.** All information submitted or supplied in the formats of this tender document shall be presumed to be true to the best of knowledge of bidder.
- 30.** If the last date for receipt of the tender/bid turns out to be a holiday, it will automatically be extended to next working day.
- 31.** A bid submitted can not be withdrawn. The bidder or his authorized representative (one person only) will be allowed to be present at the time of opening of bids. They will not participate in the discussions. Clarification sought, if any may be provided by them.
- 32.** The Contractor will quote percentage excess/less up to two decimal point only. If he writes the percentage excess/less up to three or more decimal points, the first two decimal point shall only be considered without rounding off.
- 33.** If the bidder has a relative employed as an Officer in the rank of Deputy Manager & above in OSPHWC, Bhubaneswar, he shall inform the same in the bid mentioning the exact details in a covering letter along with the tender, failing which his bid will not be considered. Also if the fact of relationship subsequently comes to light, his contract will be rescinded. The bid security or the performance security will be forfeited and he shall be liable to make good any loss or damage resulting from such cancellation. In case the bidder has no relationship with any of the

officers mentioned above he shall have to furnish with his bid a certificate.

**34.** Advance payment /part payment will not be entertained before completion and handing over the work to the concerned User Authority (End User).

**35.** Deduction towards Labour Cess @ 1% shall be made from the gross amount of the contractor's claim/bill.

**36.** No claim can be made due to some unforeseen delay for release of payment.

**37.** Payment of bill will be made only after completion of the work in all respects i.e. Supply, Installation, Testing & Commissioning and handed over the work to the concerned User Authority (End User).

**38.** Deduction towards Security money @ 5 % shall be made from the gross amount of the contractor's claim/bill and same will be released after successful completion of the 12 months of comprehensive warranty period and will not carry any interest.

**39.** From the commencement of the works to the completion of the same, they are to be under the contractor's charge. The contractor is to be held responsible to make good all injuries, damages and repairs occasioned or rendered necessary to the same by fire or other causes and they hold the OSPH&WC harmless for any claims for injuries to person or structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the contractor or any one in his employment during the execution of the work. Also no claim shall be entertained for loss due to earthquake, flood, cyclone, epidemic, riot or any other calamity whether natural or incidental damages so caused will have to be made good by the contractor at his own cost till completion of comprehensive warranty period.

**40.** Any damages caused by natural calamities should be done by the contractor at his own cost. The OSPH&WC will not be in any way responsible for the same and will not pay any cost towards the repair done by the contractor till completion of comprehensive warranty period.

**41.** If the contractor fails to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the OSPH&WC on account of such breach, pay as agreed compensation @ 0.5% per day for delay of work, delay to be counted as per day basis. Provided that the total amount of compensation for delay to be paid under this condition shall not exceed 5 % of the work order Value.

**42.** Request for reschedule and extension of time, to be eligible for consideration, shall be made by the Contractor in writing well before of the happening of the event causing delay with specific reason in form No - 10 of the OAM (OSPH&WC). The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

**43.** In any such case a fair and reasonable extension of time for completion of work may be given. Such extension shall be communicated to the contractor by the tender calling authority in writing within due time.

**44.** All the transit risk shall be responsibility of the contractor.

**45.** Failure to complete the work in full within the stipulated period may lead to forfeiture of EMD and blacklisting of the contractor/firm.

**46.** The authorities are not bound to accept the lowest quoted rate.

**47.** Terms and conditions of this tender document cannot be negotiated for variations.

**48.** The authority reserves the right to reject any or all tender in whole or part without assigning any reason and can impose any other condition(s) as deemed proper before or in course of finalisation of the tender.

**49.** The approved tender may be cancelled by the authority any time during validity without assigning any reason thereof and no claim can lie against OSPHW&C for such cancellation.

**50.** All materials required for the work should be approved brand of the OPHWC. Before take up the work the D.M (Electrical) & A.P.M (Electrical) concerned shall verify/ certify the quality of materials.

**51.** All the disputes shall be subject to Jurisdiction of Civil Courts situated at Bhubaneswar in exception to High Court Orissa, Cuttack.

**Sd/-  
Joint Manager (Elect)**

**GENERAL BID FORM**

**SCHEDULE-A**

**BID REFERENCE NO:-31/JM / ELECT / OPHWC / 2020-21**

**1.(A) Name Firm :**

**(B) Full Address:**

**(C) Fax No :**

**(D) Telephone No :**

**(E) E-mail address of the firm :**

**2. Legal Status of the firm :**

**3. Give the location and address of your local office/ Branch office :**

**4. Kindly confirm by writing” Yes” or “No” only.**

**[A] Have you enclosed the EMD? If yes, mention the amount and its identifying details.**

**[B] Have you enclosed the bid document cost? If yes, mention the amount and its identifying details.**

**[C] Have you enclosed the copy of valid GST registration certificate ?**

**[D] Have you enclosed the copy of PAN card ?**

**[E] Have you enclosed the copy of valid EPF Registration certificate ?**

**[F] Have you enclosed the copy of valid ESI Registration certificate?**

**[G] Have you enclosed the copy of audited balance sheet?**

**[H] Have you enclosed the copies of assessment return of income tax of last three years ?**

**[I] Have you enclosed the documents regarding proof of executing same nature of work with copy of work order and completion certificates in support of credential ?**

[J] Have you enclosed the proof of supporting documents relating to the compliance of the Technical specifications ? |

[K] Have you enclosed the affidavit regarding not blacklisted / defaulter contractor or Firm?

[L] Have you enclosed all the documents and papers called for in the Technical bid ?

[M] If the answer to [L] above is 'No', which of the documents / papers called for in the Technical bid have not enclosed ?

(Kindly enclose a list of such document/papers – Use separate Sheet of paper, if necessary)

**Sd/-**

**Joint Manager (Elect)**

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**CERTIFICATE OF NO RELATIONSHIP**  
**SCHEDULE-B**

**BID REFERENCE NO:-31/JM / ELECT / OPHWC / 2020-21**

I/We hereby certify that I/We am/are **related/not related** to any officer of OSPH&WC of the rank of Deputy Manager & above . I/We am/are aware that, if the facts subsequently proved to be false, my/our contract will be rescinded with forfeiture of E.M.D and security deposit and I/We shall be liable to make good the loss or damage resulting from such cancellation.

I//We also note that, non-submission of this certificate will render my / our tender liable for rejection.

**N:B :-** Strike out which is not applicable.

Signature with seal of the Bidder

Date:-

**RELATIONSHIP DECLARATION**  
**SCHEDULE-C**

**BID REFERENCE NO:-31/JM / ELECT / OPHWC / 2020-21**

To,

The Tender Inviting Officer,  
Subject: (Name of the Work)  
Reference: (Bid reference number)

Sir,

Pursuant to clause 33 of the schedule, it is to inform that I have relative(s) employed as an officer of OSPH&WC of the rank of Deputy Manager & above .His /Her (Their) details are as follows.

Relationship:  
Name:  
Designation :  
Office :  
Address :

Pursuant to clause 33 of the General Condition of the Contract, I am to submit herewith the names of persons who are working under my firm having near relative (s) employed as an officer of OSPH&WC of the rank of Deputy Manager & above. His/her (Their) details are as follows.

Sl No.	Name of the my employee and his designation in the firm	Presently working at	Details of his relatives working in the Department
1.			Relationship Name: Designation Office Address

I am also duty bound to inform the relationship of any subsequent employee to any officer of OSPH&WC of the rank of Deputy Manager & above. I am aware that any breach of this condition would render my firm liable for penal action for suppression of facts.

Yours Sincerely

Signature with seal of the Bidder  
Date:-



# Technical Specifications

- 1) Specification of 2MP IP Bullet Camera with 50 Mtr. IR.
- 2) Specification of 5MP IP Audio Dome Camera with 30 Mtr. IR
- 3) Specification of (VMS) Video Management System.
- 4) Specification of Hardware Server (Both Directory & Archiver)
- 5) Specification of SAN storage
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- 8) Specification of RJ45 Connector
- 9) Specification of 24 Port 10/100/1000 Mbps Managed POE+ switch.

## (1) Technical Specification of 2MP Motorized Varifocal IP Bullet Camera with IR 50 Mtr. IR

<b>High Definition outdoor 2 MP IP Camera with IP67 Outdoor enclosure and IR Light</b>			
<b>Sl. No.</b>	<b>Camera Characteristics</b>	<b>Minimum Specification</b>	<b>compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.</b>
1	Image Sensor	1/2.7" progressive Scan HD CMOS	
2	Lens	3.6 to 9 mm or better	
3	Field of View	As per Lens	
4	Day and Night	Automatic/Manual/scheduled	
5	Minimum Illumination /Light Sensitivity	Colour Mode: F1.2 @0.5 lux      Black and white mode:F1.2 @ 0.03 lux with IR Illuminator	
6	Light Sensor	Sense the Level of ambient light to determine when to switch day/night mode.	
7	Video Compression	H.264/Motion JPEG	
8	Resolutions and frame rates(H.264 /H.265)	1920x1080@30 fps (1080p) 1280x720 @ 30fps(720p)      1024 x 576 @ 30fps, 960x544@30fps, 704x480 or 576 @30 or 25fps      (4CIF)	
9	PoE	It should be PoE enabled and outdoor ready with IK10 enclosure	
10	Certificate and Housing	IP67-and IK10-rated housing, Camera should have sun shield, Wall mount bracket and waterproof	
11	Remote, Auto focus support	Camera should remote Zoom and Autofocus	

12	Motorized Lens	Yes	
13	Digital I/O ( Audio I/O ,Alarms	Audio in x 1	
14		A/V out x1	
15		DI x 1	
16		Do x 1	
17	Audio/ video out port	Camera should allow the connection of an optional Y cable or mini cable with BNC connector. Camera should allow connect a video monitor to the mini cable with BNC connector	
18		Camera should have option to connect an external microphone.	
19		Camera should have provision for fine tuning the focus.	
20	Local Storage (SD or Micro SD)	Camera Should have Micro SD/SDHC (128 GB)	
21	Supported Protocol	DHCP,HTTP,HTTPS,NTP,RTP,RTSP SMTP,SSL/TLS,TCP/IP, SNMP, and Secure shell (SSH) ,	
22	ONVIF	ONVIF 2.0 Support	
23	Certification	The system shall be ROHS,WEEE,ISO-14001 and REACH compliant.	
24		It should be FCC,CE,UL Certified & BIS Certified	
25	Auto Detection & Configuration	The camera should be automatically discovered and configured when connected to VMS or Network Switch	
26	CCTV OEM should not be blacklisted globally or in India for security Concerns during the last 5 years		

**(2) Technical Specification of 5MP Audio Dome IP Camera with 30 Mtr. IR**

Sl. No.	Camera Characteristics	Minimum Specification	compliance ( Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.
1	Quality of image	Minimum 5 Megapixel progressive - scan HD CMOS	

2	OEM	All proposed cameras should be from single OEM	
3	Lens	3 ~ 9 mm, DC-Iris	
4	Field of View	As per Lens	
5	Day/Night Operation	The camera should provide day/night functionality automatically switches to night mode in low-light scenes.	
6	Minimum Illumination /Light Sensitivity	Colour mode: F1.2@0.4 lux Black -and white mode : F1.2 @0.2 lux	
7	Video Compression	H.264 Motion JPEG	
8	Resolutions and Frame rates (H.264 / H.265))	<ul style="list-style-type: none"> <li>● Single -stream H.264 or MJPEG up to 1280 X 960@30fps</li> <li>● Dual-stream H.264/MJPEG</li> </ul>	
9		<ul style="list-style-type: none"> <li>● Primary Stream Programmable up to 2592X1944 @15fps</li> </ul>	
10		<ul style="list-style-type: none"> <li>● Secondary stream programmable up to 704X 576 @ 15fps</li> </ul>	
11	PoE	It should be PoE enabled and outdoor ready with IK 10 enclosure	
12	Camera Adjustment Angle	PAN:350°	
13		Tilt:72°	
14		Rotate:350°	
15	Digital I/O ( Audio I/O Alarms)	Audio in x 1	
16		A/V out x 1	
17		DI x1	
18		Do x 1	
19	Certification	The system shall be ROHS, WEEE,ISO-14001 and REACH compliant	
20		It Should be FCC,CE,UL certified	
21	ONVIF	ONVIF 2.0 Support	
22	Local storage ( S.D or Micro SD)	Micro SD/SDHC of Minimum 128 GB	
23	Supported Protocol	DHCP,HTTP,HTTPS,NTP,RTP,RTSPS MTP,SSL/TLS,TCP/IP, SNMP ,and Secure shell (SSH)	
24	Application Ready platform	Camera should have option to add functions by installing and running applications directly on the camera.	

### (3) Technical Specification of (VMS) Video Management Software Application

Sl. No	Technical Specification	compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.
1.0	<b>VMS General Requirements</b>	
1.1	The VMS shall be based on a true open and Cloud ready architecture that shall allow the use of non-proprietary workstation and server hardware, non-proprietary network infrastructure and non-proprietary storage. The VMS application provider must support at least 50 + brands of Cameras and the list of integrations must be listed on the global web site of the application provider.	
1.2	The VMS shall integrate cameras using dedicated driver or using the industry standards ONVIF Profile S and Profile G. The same must be listed on the ONVIF website.	
1.3	The Security application shall offer a complete and scalable video surveillance solution which allows cameras to be added on a unit-by-unit basis. The database shall support more than 10000 cameras / IP end points in a single Hardware machine.	
1.4	The Proposed VMS Solution Shall support native Fail over with in application with no dependency on any external application for both hardware and application redundancy. Solutions with external clustering like Windows , NEC etc. should not be proposed. The native fail over architecture must be for both management and recording servers.	
1.5	The Fail over and Fall back management and recording Server shall be on hot standby, ready to take over during the primary management server fails. No manual action from the user shall be required. The fail over time should not be beyond 1 Min and there should not be any loss in the Live video and recorded video.	
1.6	The Standby VMS server shall support disaster recovery scenarios where a server can be in another geographic area (or building) and only take over if Primary server become offline.	
1.7	The Standby Server shall support real-time synchronization of the configuration databases for high reliability.	
1.8	The Application shall offer a plug and play type hardware discovery service with the following functionalities:	
1.9	Automatically discover Video surveillance units as they are attached to the network.	
1.10	Discover Surveillance units on different network segments, including the Internet, and across routers with or without network address translation (NAT) capabilities.	
1.11	The Application shall have the capacity to configure the key frame interval (I-frame) in seconds or number of frames.	
1.12	The Application shall allow for multiple recording schedules to be assigned to a single camera.	
1.13	The Application shall support Direct Multicast from Camera. For network topologies that restrict the Application from sending multicast UDP streams, the application shall redirect audio/video streams to active viewing clients on the network using multicast UDP directly from cameras and the architecture should not use Multicast streaming via recording servers or any other servers and increase the overall compute capacity of Recording servers.	

1.14	The Application shall allow important video sequences to be protected against normal disk cleanup routines.	
1.15	The application shall have the following options when protecting a video sequence: Until a specified date, for a specified number of days, indefinitely (until the protection is explicitly removed for evidence).	
1.16	The application shall support edge recording capabilities with ability to playback the video recorded at different speeds and ability to offload the video recorded on the application server on schedule, on event, or manually to store it on the recording server.	
1.17	The proposed software shall be scalable to support live viewing and automatic transfer of video recorded to the cloud on demand basis from the same VMs user interface, based on the age of the video for future scalability and the hosted Cloud Platform must be among the approved vendors as per the MeITY approved GI Cloud initiative from Govt of India. The proposed application must provide a single interface to monitor, collaborate and action for both on premises and cloud devices like cameras, ANPR devices etc.	
1.18	The Application shall be capable to handle both IP v4 and IP v6 Unicast and Multicast traffic with both PIM - SM and PIM - DM support.	
1.19	The application management server should not have any limitation on the no of recording servers added on one single management / fail over server. Any limitations must be clearly specified by the bidder.	
1.20	There should not be any dependency on the end point MAC address for licensing for ease of operations.	
1.21	The application vendor must be a Gold partner of the proposed OS vendor for seamless integration and higher level of support commitment.	
2.0	<b>Client Interface</b>	
2.1	The Monitoring UI shall support the role of a Unified Security Interface that can monitor various Video, ALPR, and other system events and alarms, as well as view live and recorded video.	
2.2	User workspace customization:	
2.3	The user shall have full control over the user workspace through a variety of user-selectable customization options. Administrators shall also be able to limit what users and operators can modify in their workspace through privileges.	
2.4	Once customized, the user shall be able to save his or her workspace.	
2.5	The user workspace shall be accessible by a specific user from any client application on the network.	
2.6	Display tile patterns shall be customizable.	
2.7	Event or alarm lists shall span anywhere from a portion of the screen up to the entire screen and shall be resizable by the user. The length of event or alarm lists shall be user-defined. Scroll bars shall enable the user to navigate through lengthy lists of events and alarms.	
2.8	The Monitoring UI shall support multiple display tile patterns (e.g. 1 display tile (1x1 matrix), 16 tiles (8x8 matrix), and multiple additional variations).	
2.9	Additional customization options include: show/hide window panels, show/hide menus/toolbars, show/hide overlaid information on video, resize different window panes, and	

	choice of tile display pattern on a per task basis.	
2.10	The Monitoring UI shall provide an interface to support the following tasks and activities common to Various systems	
2.11	Monitoring the events from a live security system.	
2.12	Generating reports, including custom reports.	
2.13	Monitoring and acknowledging alarms.	
2.14	Creating and editing incidents and generating incident reports.	
2.15	Displaying dynamic graphical maps and floor plans as well as executing actions from dynamic graphical maps and floor plans Unified with UC&C.	
2.16	The live video viewing capabilities of the Monitoring UI (User Interface) shall include:	
2.17	The ability to display all cameras attached to the system both Public, Collaborative monitoring and Cloud based entities.	
2.18	The ability to drag and drop a camera into a display tile for live viewing.	
2.19	The ability to drag and drop a camera from a map into a display tile for live viewing.	
2.20	Support for digital zoom on live camera video streams.	
2.21	The ability for audio communication with video units with audio input and output.	
2.22	The ability to control pan-tilt-zoom, iris, focus, and presets.	
2.23	The ability to bookmark important events for later retrieval on any archiving camera and to uniquely name each bookmark in order to facilitate future searches.	
2.24	The ability to start/stop recording on any camera in the system that is configured to allow manual recording by clicking on a single button.	
2.25	The ability to activate or de-activate viewing of all system events as they occur.	
2.26	The ability to switch to instant replay of the video for any archiving camera with the simple click of button.	
2.27	The ability to take snapshots of live video and be able to save or print the snapshots.	
2.28	The ability to browse through a list of all bookmarks created on the system and select any bookmarked event for viewing.	
2.29	Tools for exporting video and a self-contained video player on various media such as USB keys, CD/DVD-ROM and Proposed Evidence management and Collaboration system. This video player shall be easy to use without training and shall still support reviewing video metadata.	
2.30	Tools for exporting video sequences in standard video formats, such as ASF, MP4	
2.31	The ability to encrypt exported video files with industry standard encryption.	
2.32	A tool building and exporting a set of videos into a single container. This tool shall allow the operator to build sequences of video to create a storyboard and allow the export of synchronous cameras.	
3.0	<b>Cyber Security Requirements</b>	

3.1	The VMS shall support only secured media stream requests, unless explicitly configured otherwise. Secured media stream requests shall be secured with strong certificate-based authentication leveraging RTSPS (aka RTSP over TLS). Client authentication for media stream requests is claims-based and may use a limited lifetime security token.	
3.2	The VMS shall offer the ability to encrypt the media stream, including video, audio, and metadata with authenticated encryption. Media stream encryption shall be done at rest and in transit and be a certificate-based AES 128-bit encryption.	
3.3	The VMS shall allow encryption to be set on a per camera basis for all or some of the cameras.	
3.4	Provide up to 20 different certificates for different groups of users who have been granted access to decrypted streams.	
3.5	Use Secure RTP (SRTP) to encrypt the payload of a media stream in transit and allow multicast and unicast of the encrypted stream.	
3.6	Use a random encryption key and change periodically.	
3.7	Allow encrypted streams to be exported.	
3.8	The VMS shall support end to end encrypted streams with cameras supporting Secure RTP (SRTP) both in unicast and multicast from the camera.	
3.9	The Application shall support digitally sign recorded video using 248-bit RSA public/private key cryptography.	
3.10	The Application shall protect archived audio/video files and the system database against network access and non-administrative user access.	
3.11	Media encryption shall support with latest industry standards - AES-128.	
3.12	The application must support encryptions at the rest and not only on the exported videos footage	
3.13	The proposed VMS platform must be UL 2900-2-3 Level 3 Cybersecurity certification	
4.0.	<b>Mobile App interface</b>	
4.1	The VMS shall support mobile apps for various off-the-shelf devices. The mobile apps shall communicate with the Mobile Server of the VMS over any Wi-Fi or cellular network connection.	
4.2	All communication between the mobile apps and central server shall be based on standard TCP/IP protocol and shall use the TLS encryption with digital certificates to secure the communication channel.	

4.3	<p>Functionalities: Core</p> <p>a. The mobile app should a COTS based app from the VMS provider being made available from the day 1 and must be easily be downloadable from IOS and Android stores online.</p> <p>b. Ability to display a geographic map with VMS entities geo-located on the map.</p> <p>c. Ability to view any camera configured on the map.</p> <p>d. Ability to search cameras or location on the map.</p> <p>e. Ability to view live and recorded video from the cameras of the central recording server.</p> <p>f. Ability to display live and recorded video side-by-side for a specific camera.</p> <p>g. Ability to perform digital zoom on cameras.</p> <p>h. Ability to perform actions on cameras such as add a bookmark, control a PTZ, control the iris/focus function, save a snapshot, start/stop recording.</p> <p>i. Ability to use the camera of the smartphone and stream a live video feed to a video recorder in the system.</p> <p>j. Ability to locate the mobile app user on map and provisioning to message and collaborate in real time with the central command center or field staff.</p>	
4.4	<p>It shall be possible to extend to the widgets of a dashboard using the SDK. This will provide the ability to develop custom widgets to the system.</p>	
4.5	<p>The VMS shall support the following actions on a dashboard: print dashboard, export dashboard to PNG file, and automatically email a report based on a schedule and a list of one or more recipients.</p>	
4.6	<p>The Video Management Software (VMS) Application, should be an Open Platform Application &amp; should not be from the Same Camera OEM.</p>	

#### (4) Technical Specification of Server

Specification of Directory & Archiver Server		
Sl. No	Technical Specification	compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.
1	<p>Directory Server Requirements Spec Unified Server Requirements Spec <b>OS</b> Windows Server 2016, <b>Processor:</b> Intel® Xeon® E3-1230v6 3.5GHz or Higher, <b>Memory:</b> 16 GB DDR4 Or Higher, <b>Ethernet:</b> On-board dual 1Gb network adapter(Optional dual 10 Gb adapter available), <b>2X120GB SSD(RAID1)</b>, <b>Warranty:</b> 5-year warranty with on-site service, The appliance must be a turnkey solution with Video Management Software pre- installed, The solution must have machine-learning based antivirus native to the solution, The solution must have built in application to back up the video management software configuration data. The solution should have Microsoft's native antivirus configured by default to work with the video Management System. The solution must have built in maintenance tool developed by the manufacturer of the video management system.</p>	



2	<p>Archiver with Storage Server Requirements Spec          Unified Server Requirements Spec  <b>OS</b> Windows Server 2016 or higher, Processor: Intel Xeon E3-2226G or Higher , <b>Memory:</b> Up to 16 GB DDR4 or Higher,  <b>Ethernet:</b> On-board dual 1Gb network adapter (Optional dual 10 Gb adapter available), <b>2X120GB SSD ,Compliance standards :</b> IEC 60950-1, Warranty: 5-year warranty with on-site service, The appliance must be a turnkey solution with Video Management Software pre- installed, The solution must have machine-learning based antivirus native to the solution, The solution must have built in application to back up the video management software configuration data. The solution should have Microsoft’s native antivirus configured by default to work with the video Management System. The solution must have built in maintenance tool developed by the manufacturer of the video management system.</p>	
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### (5) Technical Specification of SAN/NAS Storage

Specification for SAN Storage		
Sl. No	SAN Storage Specification	compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.
1	Proposed storage must have minimum 12 G SAS Drive side connectivity, 12 G SAS internal data bus, 12 G SAS expansion ports.	
2	Proposed storage system should have 2U Rack mountable & should support minimum 12x 2.5"/3.5" SATA / SAS HDD.	
3	should have at least 1x Intel 4 core or higher CPU	
4	System should have Default 8GB memory and expandable upto 32GB or more	
5	System should have 4x1 GbE ports,	
6	System Should have minimum 1 number of replaceable modular Card Slot	
7	Below max. Host ports should be supported in card slot and possible to inter change the card without the need to change or upgrade the storage controller	
8	4 x 16 Gb/s FC 2 x 32 Gb/s FC 2 x 10 Gb/s iSCSI (RJ45) 2 x 10 Gb/s iSCSI (SFP+) 8 x 1 Gb/s iSCSI 2x 25Gb/s (SFP28) 2x 40Gb/s (QSFP+) 3x 12Gb/s SAS	
9	Initially Quoted with 4x1GbE ports	
10	Support drives including SSD, SAS/SATA HDD in the same enclosure.	
11	2.5" SAS/SATA SSDs 2.5" 10K rpm SAS HDD 3.5" 7200 rpm NL-SAS/SATA HDD	

12	Automated support request Proposed Storage should have option to automatically create support ticket with relevant logs with the OEM support in case of critical event.	
13	Proposed storage should have true unified storage architecture. should support File, Block and Object storage. All these protocols should be supported and licenses for full storage capacity should be quoted for the duration of the product lifecycle NFS, CIFS/SMB, AFP, FTP, SFTP, WebDAV, REST API, 1Gb/s, 10Gb/s and (RJ-45, SFP+), 10Gb/s FCoE, 8Gb/s, 16Gb/s Fiber Channel,	
14	Storage Capacity: Should be quoted with 12x 4TB NL SAS 12Gb/s HDD.	
15	System should be scalable to minimum 300 drives by using SAS connected expansion enclosure.	
16	One hot spare for every 10 drives should be configured.	
17	Support inbuilt file system which can support single volume size up to 2PB. License for full capacity should be quoted upfront.	
18	OS Support - Microsoft Windows Server 2019/2016/2012R2/2012/2008R2/2008, Windows 7 SP1, Windows 8.1, Microsoft Windows Hyper-V, Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, Mac OS X, VMware, Citrix XenServer, OpenStack Cinder	
19	Cloud - Support cloud provider: Amazon S3, Alibaba Cloud, Microsoft Azure, Open stack Swift, Google Cloud. If any additional hardware is required for cloud integration it should be quoted for the full capacity upfront	
20	Cloud Disaster Recovery automatically make the hidden snapshot to cloud, allow administrator to use the last snapshot for roll-back.	
21	Support deduplication/compression feature before data migrate to cloud provider	
22	Storage should support Automated Storage Tiering, SSD Cache, Thin Provisioning, Volume Mirror/Copy, Block level Remote replication, File level Remote Replication (Rsync), Snapshot.	
23	Intelligent multi-level drive spin-down	
24	Relative humidity: 5 to 95% non-condensing, operating and non-operating	

#### (6) Technical Specification of 5 KVA Online UPS

Technical Specification of 5 KVA Online UPS		
Sl. No.	Specification	compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.)
1	Technical Parameters- 2x6KVA Online UPS system working Parallel Redundancy Load sharing configuration.	

2	<u>UPS Rating-</u> 5 KVA / 5000W , 30 MIN, 5600VAH FOR EACH UPS.	
3	<u>Technology-</u> True on line Double Conversion Based on IGBT Technology for both rectifier and inverter working parallel redundancy .	
4	<b>Input Parameter</b>	
Voltage Range	110V-300V AC	
Frequency Range	46 to 54 Hz	
Phase	Single Phase	
Power Factor	0.9	
Input THD	< 4% at 100% load.	
5	<b>Output Parameter</b>	
Nominal Voltage	230 VAC	
Voltage Regulation	+ /- 1%	
Frequency	46 - 54 Hz	
Harmonic Distortion (THD)	< 1% (linear load) < 4% (non-linear load)	
Output Waveform	Pure sine wave	
Phase	Single Phase	
Efficiency (AC - AC)	up to 94%	
Charging Current	4Amp.	
Power Factor	0.9	
Overload capacity	110% for 10mins. 130% for 1Secs.	
	<b>Standard Feature</b>	
Operating Temperature	0-40 degree Continuous	
Parallel Up to	3 units.	
Noise level	<55 dB @ 1 meter	
LCD Display	Mains ON ,OFF, Discharge timer, Fault diagnosis,	
Protection	inbuilt surge protection and OVCD, Emergency power off (EPO),Echo mode for energy saving. Generator Compatible.	
Maintenance and static Bypass	inbuilt.	
Battery	12V 26H - 18Nos. Make - Exide / Quanta/ Okaya /equivalent.	
6	<b>Management.</b>	
Standard	RS 232 port for software Available(OPTIONAL)	
Software	SNMP / Web enabled(OPTIONAL)	

Ingress Protection	IP20	
Weight	32 KGS.	
Warranty	Standard OEM warranty for 2 years for UPS system and 2 years for battery.	
Service Support	Company owned and company operated service center shall be present. Details of address and Service Engineer shall be provided	

#### (7) Specifications for CAT 6 UTP Cable & Components

<b>SOLID CABLE CATEGORY 6 UTP LSZH, 4 PAIR</b>		
<b>SL. No.</b>	<b>SPECIFICATION / QUALITATIVE REQUIREMENT</b>	<b>compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.</b>
1	This cable well exceeds the requirements of TIA/EIA-568-C.2 and ISO/IEC 11801	
2	Nominal Outer Diameter of Cable should be 5.9+/-0.01mm and Conductor Diameter 0.56 mm (23 AWG)	
3	Construction: 4 twisted pairs separated by internal PE Cross Separator. Full separator. Half shall not be accepted. Rip Cord is must.	
4	Conductor Solid bare Copper and Outer jacket sheath LSZH . Jacket color: Light Grey	
5	Insulation :High Density Polyethylene Solid	
6	Dielectric Strength of cable should be 1000 V RMS	
7	Bending Radius : < 4X Cable Diameter at -20°C +/- 1°C Pulling Force: 25.35 LBS	
8	Electrical Parameters Pair – to – pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR.	
9	Insertion Loss of 32.8 db/100m at 250 MHz	
10	Cable should support operating Temperature from -20° to +70°C	
11	Cable support Conductor Resistance < 9.38 Ω /100m	
12	Mutual Capacitance of cable should be < 5.6nF/100m	
13	Max Resistance Unbalance of cable should be 5% Max	
14	Capacitance Unbalance of cable should max 330pF/100m	
15	Cable support Delay Skew: < 45nS, Operating Voltage: 72V NVP: 69% and Current Rating : MAX 1.5A	
16	Printed sequential Length Counter of each meter on Outer Jacket	

<b>SOLID CABLE CATEGORY 6 UTP LSZH, 4 PAIR</b>		
<b>SL. No.</b>	<b>SPECIFICATION / QUALITATIVE REQUIREMENT</b>	<b>compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.</b>
17	Category 6 UTP cables shall Supports Gigabit Ethernet (1000 base-T) standard and Operates at bandwidth of 250MHz	

**(8) Specification of CAT 6 RJ45 CONNECTOR**

<b>SL. No.</b>	<b>SPECIFICATION / QUALITATIVE REQUIREMENT</b>	<b>compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.</b>
1	RJ-45 modular plugs for Local Area Network (LAN) and computer Applications	
2	Suitable for Solid or Stranded	
3	CAT 6 rated	
4	3-Prong Design for accurate termination	
5	Current Rating : 250V AC max, at 2A	
6	Insulation Resistance : >500M $\Omega$ , 1000V DC/min.	
7	Dielectric withstanding : 1000V DC/min, <0.5A	
8	Contact Resistance : <20 M $\Omega$	
9	Durability : above 750 mating cycles	
10	Cable to plug tensile : 20lbs(89N)min	
11	Gold plating thickness : Gold flash 3MU”	
12	Housing material : Polycarbonate UL94V-0	
13	Temperature for operation : -40°C to +125°C	
14	RoHS compliant	

**(9) Specification of Switch 24 Port POE Switch**

<b>Sl.No</b>	<b>Technical Specifications</b>	<b>compliance (Yes/No).If yes, proof of supporting document needs to be enclosed, which must be authorised by the OEM.</b>

<b>1</b>	<b>General Features</b>	
1.1	The switch should support a minimum of 20 nos. 10/100/1000 Ethernet Ports	
1.2	The switch should support a minimum of 4 Combo (GT/SFP) Uplinks.	
1.3	The switch should support a minimum of 4 SFP+ Uplinks.	
<b>2</b>	<b>Performance and Scalability</b>	
2.1	The switch should support Full-duplex Switching bandwidth of 128 Gbps	
2.2	The switch should support 64-Byte Packet Forwarding Rate of 95 Mpps	
2.3	The switch should support 32MB SPI + 128MB NAND of Flash memory	
2.4	The switch should support 512 MB of DRAM	
2.5	The switch should support 64 VLANs	
2.6	The switch should support 4096 VLAN IDs	
2.7	The switch should support Jumbo frames of 9216 bytes	
2.8	The switch should support Maximum transmission unit (MTU) of 10K	
2.9	The switch should support 16000 Unicast MAC addresses	
<b>3</b>	<b>Stacking</b>	
3.1	The Switch architecture should be able to stack 4 switches together with virtual stacking	
3.2	The Switch stack should be based on Distributed forwarding Architecture, where in each stack member forwards its own information on network.	
3.3	The Switch should support Stateful Switchover (SSO) when switching over from Active to Standby switch in a Stack.	
3.4	The Switch stacking should support 20 Gbps of throughput.	
3.5	The Switch stacking should support single IP address management for the group of switches.	
<b>4</b>	<b>Dimension</b>	
4.1	The Switch should be 1RU	
4.2	The switch should support Operating temperature from 0° to 45°C	

4.3	The switch should support Operating relative humidity 15% to 90% noncondensing	
<b>5</b>	<b>Power Supply</b>	
5.1	The switch should support an auto-ranging power supply with input voltages between 100 and 240V AC.	
5.2	Power over Ethernet Budget 370W	
5.3	All ports should support IEEE802.3af & IEEE802.3at	
<b>6</b>	<b>Standards</b>	
6.1	The switch should support IEEE 802.1D Spanning Tree Protocol	
6.2	The switch should support IEEE 802.1p	
6.3	The switch should support IEEE 802.1Q Trunking	
6.4	The switch should support IEEE 802.1s Multiple Spanning Tree (MSTP)	
6.5	The switch should support IEEE 802.1w Rapid Spanning Tree (RSTP)	
6.6	The switch should support IEEE 802.1x	
6.7	The switch should support SNMP v1, v2c, and v3	
<b>7</b>	<b>Layer-2 Features</b>	
7.1	The switch should support Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors.	
7.2	The switch should support IEEE 802.1Q VLAN encapsulation.	
7.3	The switch should support Centralized VLAN Management. VLANs created on the Core Switches should be propagated automatically.	
7.4	The switch should support Per-port multicast storm control to prevent faulty end stations from degrading overall systems performance	
7.5	The switch should support Per-port unicast storm control to prevent faulty end stations from degrading overall systems performance	
7.6	The switch should support Auto-negotiation on all ports to automatically selects half- or full- duplex transmission mode to optimize bandwidth	
7.7	The switch should support IGMP v1, v2 Snooping	





1	Court building main entrance Portico	1	0	To view in/out activity	1	1	2	1	1
2	Lobby		1	To view public and staff activity					
3	Witness room		1	To view Witness activity					
4	Criminal Court room		2	To view judgement activity					
5	Right side entry Portico	1	0	To view public and staff activity					
6	Library		2	To view staff activity					
7	Computer room		1	To view staff activity					
8	Legal AID		1	To view staff activity					
9	Nizarat		2	To view staff activity					
10	Male Hazat		1	To view accused activity					
11	Female Hazat		1	To view accused activity					
12	C.S.I Room		1	To view staff activity					
13	Left side entry portico	1	0	To view Public and staff activity					
14	Malkhana		1	To view staff activity					
15	Stationary		1	To view staff activity					
16	Office 1		1	To view staff activity					
17	Civil Court room		2	To view judgement activity					
18	Office 2		1	To view staff activity					
19	CCTV Control Room								
	<b>Total Qnty.</b>	<b>3</b>	<b>19</b>		<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>

Yours Sincerely

Signature with seal of the Bidder  
Date:-

Total: - 33 (Thirty-three) pages only.

**APPROVED**

**Sd/-**  
**Joint Manager (Elect)**