



ଓଡ଼ିଶା ବିଦ୍ୟୁତ୍ ଶକ୍ତି ସଂଚାରଣ ନିଗମ ଲିମିଟେଡ.

ODISHA POWER TRANSMISSION CORPORATION LIMITED

(A Government of Odisha Undertaking)

Regd. Office: Janpath: Bhubaneswar-751022.

Telephone: (0674) 2540051 (EPABX), Website: www.optcl.co.in

CIN:U4102OR2004SGC007553

e- Tender Notice

e- Tender Notice No. TW-IT/OT/06/2022-23

Dated: 23.02.2023

Office of Chief General Manager (IT), OPTCL, 3rd Floor, OPTCL TOWER, Janpath, Bhubaneswar, OPTCL invites bids in e-tender mode only from reputed eligible bidders for “**PACKAGE – B** (Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference, display for conference Hall) of OPTCL Tech Tower building with an estimated cost of Rs. 2, 42, 22,228/- (Rupees Two Crore Forty Two Lakh Twenty Two Thousand Two Hundred Twenty Eight only) conforming to the terms and conditions mentioned in the tender document.

The interested bidders would be required to enroll themselves on the tender portal www.tenderwizard.com/OPTCL. Complete set of bidding documents are available at the tender portal, www.tenderwizard.com/OPTCL or OPTCL's website: www.optcl.co.in from 23-02-2023 (16.00 Hrs) up to 15-03-2023 (16.00 Hrs) for downloading the scope of supply and terms and conditions in detail. The due date & time of opening of techno-commercial bid shall be 16.30 Hrs on 16-03-2023.

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

The authority reserves the right to accept or reject any or all of the offers without assigning any reason thereof.

Chief General Manager (IT)

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A. SECTION-I

1. GENERAL INFORMATION TO THE BIDDERS

- I. **Name of the Project:** **“PACKAGE – B** (Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference, display for conference Hall) of OPTCL Tech Tower building
- II. The prospective bidders are advised to register their user ID, Password, company ID in the website www.tenderwizard.com/OPTCL by clicking on hyper link “Register Me”.

2. Submission of Bids

- I. The bidder shall submit the bid in Electronic Mode only i.e. www.tenderwizard.com/OPTCL. The bidder must ensure that the bids are received in the specified website of the OPTCL by the date and time indicated in the Tender notice.
- II. Bids submitted by telex/telegram will not be accepted. No request to collect the Bids in physical form will be entertained by the OPTCL.
- III. The OPTCL reserves the right to reject any bid, which is not submitted according to the instructions stipulated.
- IV. The participants to the tender should be registered under IT Act, GST Act.
- V. The Bidder must possess Compatible Digital Signature Certificate (DSC) of Class-III mandatorily.
- VI. Contractors / Vendors / Bidders are requested to follow the below steps for registration
 - (a) Click “Register”, fill the online registration form.
 - (b) Pay the amount of Rs. 2360/- through online in favour of KSEDC Ltd. Payable at Bangalore. This registration is valid for one year.
 - (c) Send the acknowledgment copy for verification.
 - (d) As soon as the verification is done the e-tender User ID will be enabled.
- VII. After viewing Tender Notification, if bidder intends to participate in tender, he has to use his e-tendering User Id and Password which has been received after registration and acquisition of DSCs.
- VIII. If any Bidder wants to participate in the tender he/ she will have to follow the instructions given below:
 - (a) Insert the PKI (which consist of your Digital Signature Certificate) in your System (Note: Make sure that necessary software of PKI be installed in your system)
 - (b) Click / Double Click to open the Microsoft Internet Explorer (This icon will be located on the Desktop of the computer).
 - (c) Go to Start > Programs > Internet Explorer.

- (d) Type www.tenderwizard.com/OPTCL in the address bar, to access the Login Screen.
 - (e) Enter e-tender User Id and Password, click on “Go”.
 - (f) Click on “Click here to login” for selecting the Digital Signature Certificate.
 - (g) Select the Certificate and enter DSC Password
 - (h) Re-enter the e-Procurement User Id Password
- IX. To make a request for Tender Document, Bidders will have to follow below mentioned steps:
- (a) Click “Un Applied” to view / apply for new tenders.
 - (b) Click on Request icon for online request
 - (c) Enter the required fields including details of online for tender Processing fee
- X. After making the request Bidders will receive the Bid Documents which can be checked and downloaded by following the below steps:
- (a) Click to view the tender documents which are received by the user
 - (b) Tender document screen appears
 - (c) Click “Click here to download” to download the documents
- XI. After completing all the formalities Bidders will have to submit the tender and they must take care of following instructions:
- (a) Prior to submission, verify whether all the required documents have been attached and uploaded to the particular tender or not
 - (b) Note down / take a print of bid control number once it is displayed on the screen
- XII. Competitors bid sheets will be available in the website
- XIII. For any e-tendering assistance, contact help desk number: **080- 40482000** (Bangalore)

3. SCHEDULE OF BIDDING

- | | | |
|---|------------------|--|
| 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 | : 14,160/- (non-refundable) including GST |
| | EMD | : 1% of estimated price i.e. Rs. 2, 42,222/- (refundable). |

- 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/ Scheduled Commercial bank on or before the last date for sale of bidding documents, as per clause (j) below/Online payment.
- 5 Tender Processing Fee(Online Payment) : The bidders shall have to submit non-refundable tender processing fee of **₹5900.00/-**(including GST@18%) in the form of online payment in favor of K.S.E.D.C.Ltd, Payable at Bangalore.
- 6 Submitted Tender Cost, Tender Processing Fee : The bidders shall scan the Demand Draft towards tender paper Cost and online payment receipt towards 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 draft is to be submitted in original at the office of the undersigned on or before the last date & time of submission of tender
- 7 Date of commencement of Sale of bidding document : **23/02/2023 (16:00Hrs)**
- 8 Last date of sale of bidding document : **15/03/2023(16:00Hrs)**
- 9 Last date and time for submission of bids : **15/03/2023 (16:30Hrs)**
- 10 Date of Pre-Bid meeting : **03/03/2023 (15:30Hrs)**
- 11 Time and date of opening of Techno-commercial bids : **16/03/2023 (12:30Hrs)**
- 12 Time and of opening price bids : Will be Intimated Later
- 13 Place of opening of bids : Office of Chief General Manager (IT), 3rd Floor, OPTCL Tower, OPTCL, Janpath, Bhubaneswar-751022
- 14 Address for communication : Chief General Manager (IT), 3rd Floor, OPTCL Tower, OPTCL, Janpath, Bhubaneswar-751022

4. SCOPE OF THE WORKS:

The **Scope of work** includes the Supply, Installation, Integration ,Commissioning of (DATA NETWORKING EQUIPMENT, IP INTER-CUM SYSTEM, IP CCTV SURVEILLANCE SYSTEM AND VIDEO CONFERENCE, DISPLAY FOR CONFERENCE HALL) OF OPTCL TECH TOWER BUILDING items with Technical specifications mentioned at **Annexure-A**. The end of life of all the Hardware items along with (DATA NETWORKING EQUIPMENT, IP INTER-CUM SYSTEM, IP CCTV SURVEILLANCE SYSTEM AND VIDEO CONFERENCE, and DISPLAY FOR CONFERENCE HALL) OF OPTCL TECH TOWER BUILDING software quoted by the bidder should be a minimum 3 (three)/Five (5) years from the bid submission date.

A. Schedule of Quantity

| Sl. No. | Description of Items (As per Technical Specification) | Warranty in Years | Quantity |
|---------|---|-------------------|----------|
| 1 | Data Networking Equipment 24 Port Layer 3 Switch | 5 | 2 |
| 2 | Data Networking Equipment 24 Port Layer 2 Switch | 5 | 24 |
| 3 | Data Networking Equipment 24 Port Layer 2 POE+ Switch | 5 | 19 |
| 4 | Data Networking Equipment 10G Base -LX/LH SFP Transceiver module, SMF, 1310nm, 9/125 um single mode fiber type up to 20KM | 5 | 20 |
| 5 | Data Networking Equipment 1000 Base -LX/LH SFP Transceiver module, SMF, 1310nm, 9/125 um single mode fiber type up to 20KM | 5 | 20 |
| 6 | Data Networking Equipment Indoor Access Point | 5 | 47 |
| 7 | 120/125 KVA MODULAR UPS SYSTEM with 1Hour Backup | 3 | 1 |
| 7.1 | 12V 200AH SMF Battery with 1 Hour Backup (Lot) | 3 | 72 |
| 8 | IP Inter-Cum System/ IP PBX SYSTEM | 3 | 1 |
| 9 | IP Phone Type-1 (Basic-Phone) | 3 | 171 |
| 10 | IP Phone Type-3 (Video-Phone) | 3 | 14 |
| 11 | IP CCTV Surveillance System | | |
| 11.1 | 5MP Vandal proof IR -30 M Dome Camera | 3 | 20 |
| 11.2 | 5MP Vandal proof IR -80 M Bullet Camera | 3 | 15 |
| 11.3 | 64CH Network video recorder with RAID | 3 | 1 |
| 11.4 | Surveillances HDD | 3 | 4 |
| 11.5 | 55 Inch LED Display | 3 | 1 |
| 12 | As per Technical Specification for USB Based Audio and Video Conferencing System (Conference Room-1, Room Size : L-35 Ft.X W-20 , Table Capacity: 11 Microphone-Warranty: 3 years onsite (1 Lot) | 3 | 1 |
| 13 | As per Technical Specification for USB Based Audio and Video Conferencing System (Conference Room -1 , Room Size : L-38 Ft.X W-20 , Table Capacity: 15 Microphone- Warranty: 3 Years Onsite (1 Lot) | 3 | 1 |

| | | | |
|----|--|---|---|
| 14 | Display Unit 85" and above | 3 | 3 |
| # | Installation charges with connectors, accessories, Cables etc. (Lot) | 5 | 1 |

B. TIME SCHEDULE:

| Sl.No. | Scope of Work | Time Schedule |
|--------|--|---|
| 1 | Acknowledgment of Work Order | Within 07 days from the date of issue of Work Order. |
| 2 | Supply, Installation Commissioning of the items listed in Clause 4.A | Within 10(Ten) weeks from the date of acknowledgment of Purchase order. |
| 3 | Warranty | The bidder will provide comprehensive onsite warranty for a period of 5(Five) years for Items Sl no. 1-6 and 3(Three) years for other items /materials from the date of satisfactory supply, installation of equipment, integration with accessories including UPS, battery and Server software mentioned in table Schedule of Quantity item wise. |

1. Opening of Bids: -

- Bids will be opened in the presence of Bidders or Bidder's representatives who choose to attend at the specified date and time.
- Price Evaluation of Bids for Bidders shall be taken up only in respect of Bidders who fulfill the Qualifying Requirements in the Techno-Commercial evaluation.
- The bidders shall be intimated on the date of opening of price bid through OPTCL's web site and also if any change subsequently in the date thereof.
- 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 working day after the last date of submission of bid.
- 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.

2. ELIGIBILITY CRITERIA OF THE BIDDER:

- Bidder must have its own valid PAN No. , GST REGISTRATION NO. & CIN
- The firm should be a registered firm under **1956** company Act and should be in and should be having average annual turnover of Rs. 10 crore or more per annum exclusively in the said IT maintenance trade.
- Name, Designation, Address and telephone of authorized person with authorization proof.
- Valid ISO 9001:2015/27001 series or similar Certificate, a copy of the valid ISO certificates must be submitted with techno-commercial bid. The contractor shall ensure that standards and procedures of the services comply with ISO standard.

5. Banker account details.
6. Income Tax Return of last 3 years. The bidder should be a profit making entity during last 3 financial years.
7. During last 5(five) years the bidder should not have been blacklisted/ debarred from participating in bid by OPTCL or any other Govt. organization. The bidder shall give a self-declaration in their company's letter head and duly signed by authorized signatory.
8. The bidder or Director(s) of the Company should not have been convicted by a court of Law for an offence involving moral turpitude in relation to business dealings during the past five (5) years. The bidder shall give a self-declaration in their company's letter head and duly signed by authorized signatory.
9. The Bidder should be a company registered under Indian Companies Act 1956.
10. Bidder should have their own office and Service Center having local presence and branch office in Bhubaneswar and logistic support to meet SLAs in different field location of OPTCL across Odisha.
11. The bidder should have their own Logistic Support and warehouse centrally or locally to provide support all over Odisha within the given time of SLA.
12. Bidder must be having minimum 1(One) ongoing contract of value more than 3 crore in a single work order with respect to same nature of job **(Hardware and accessories)** in any Central/State-govt./ PSUs, Public Limited company. Supporting documents must be submitted.
13. The Vendor should have call locking system with dedicated number / toll free number.
14. Vendors should have the facility of on-line monitoring of customers' calls and offering the customer facility to make local phone calls or through e-mail for registering the call or knowing its status. Vendor should have a proper database system for monitoring all calls from all their clients, through Call Escalation Matrix.

Conditions governing Opening of Tender Documents

The tender documents, soon after completion of the application period, will be opened in the presence of tender committee formed in this regard. In case where 'technical' bid of a vendor fails, the 'financial' bids will not be opened. Financial bids shortlisted on the above conditions will be finalized soon thereafter. This office does not bind itself to accept the lowest tender and also reserves the right to (a) reject any quotation without assigning any reason whatsoever or (b) retendering afresh.

3. Manner 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) Scanned Copies to be uploaded in .pdf format

All the following supporting documents as below are to be signed and scanned, then uploaded in the tenderwizard.com.

| Attachments | Document / Description |
|--|--|
| <u>Documents to be submitted as part of Techno Commercial Bid</u> | |
| doc1 | OEM authorization for providing warranty Service and genuine spare parts and OEM MAF for listed Items at Schedule -J . |
| Doc2 | Bidder must be having minimum 1(One) ongoing contract of value more than 3 crore in a single work order OR 2 (Two) number's value more than 1.5 crores work order's with respect to same nature of job (Hardware and accessories) in any Central/State- govt./ PSUs, Public Limited company. Supporting documents |
| Doc3 | Copies of certified auditor statement on Annual Turnover and Audited Financial Statement (BS, PL) for last 3 years 2019-20, 2020-21, 2021-22. |
| Doc4 | An undertaking that there will be no ownership change for three years from bid submission |
| Doc5 | a) Certificate of Incorporation and principal place of business; b) written power of attorney of the signatory of the bid to commit the bidder if any |
| Doc6 | Declaration of No subcontracting of the contract shall be made |
| Doc7 | Information regarding any current litigation in which the bidder is involved, the parties concerned, and disputed amount; Declaration to be submitted |
| Doc8 | Declaration to provide technical consultancy and guidance at no extra cost to OPTCL for proper configuration and integration. |
| Doc9 | Valid ISO 9001:2015/27001 series Certificate or similar Certificate. |
| Doc10 | Technical Deviation Statement if any as per "Deviations" title in the format described in Schedule-E |
| Doc11 | Photocopy of own valid PAN No., GST REGISTRATION NO. and any other certificate |
| Doc12 | Bid Declaration Form SCHEDULE-B |
| Doc13 | All pages of the tender document duly stamped and signed by the bidder. |
| Doc14 | Scanned copy of the Demand Draft towards tender paper Cost and online payment receipt towards tender processing fee |
| Doc15 | Schedule - H : Declaration Form |
| Doc16 | Schedule - I :Reverse Auction Process Compliance Form |
| <u>Documents to be submitted as part of Price Bid</u> | |
| Doc17 | Price Schedule-C (Must not be part of technical bid, strictly should be part of Price Bid only) |

If in the techno-commercials bid opening, it is found that, any of the firm fails to upload any of the above requisite documents in the tender wizard portal, he may submit the same in signed, stamped, hard copy format within 7days at the O/o CGM (IT), OPTCL, Janpath, Bhubaneswar.

(C) KEY-IN on the Schedules (.XLS) in the Tender Portal:

Following are the schedules in .XLS format to be downloaded, filled in and uploaded by the Bidder as per the OWNER format in the www.tenderwizard.com/OPTCL portal.

1. File Name: Price_Schedule.xls

Price schedules in XLS format to be downloaded filled in and uploaded by the Bidder as per the OWNER format and to be uploaded on the official tender portal of the OWNER:www.tenderwizard.com/OPTCL.

N.B Notwithstanding anything stated above, OPTCL reserves the right to review the Bidder's capability and capacity to perform the contract at the time of award and reserves the right to accept or reject any or all tenders without assigning any reason thereof.

On request, original documents should be produced by the bidder failing which the tender would be deemed unresponsive hence incomplete.

(C) STRATEGY FOR Electronic -REVERSE AUCTION (e-RA):

1.1. STRATEGY FOR Electronic -REVERSE AUCTION (e-RA) as per DoP dtd. 13.12.2021 of OPTCL.

- 1.1.1. Bidders are required to go through the guide lines given below and submit their acceptance to the same.
- 1.1.2. e- Reverse Auction (RA) will be conducted in e-tender portal of OPTCL on specified date and time, while bidders shall quote from their own offices/places of their choice. Internet connectivity shall be ensured by the respective agencies/bidders themselves.
- 1.1.3. Demonstration/ training (if not trained earlier) of bidder's nominated person(s), shall be done to explain all the rules related to e-Reverse Auction/ Business Rule document to be adopted.
- 1.1.4. The strategy to be used for reverse auction shall be "DYNAMIC TEMPLATE BIDDING"

1.2. Procedure for Electronic Reverse Auctioning (e-RA):

- 1.2.1. Bidder has to submit letter towards agreement to the Process related Terms & Conditions for e-Reverse Auction, as per (Reverse Auction Process Compliance). In case of non-receipt of the same, vendors will not be allowed to participate in e-RA.
- 1.2.2. e-RA shall be carried out after opening of Price bids and completion of Price bid evaluation, which will be intimated only to the techno-commercially qualified bidders by OPTCL as per procedure given above.
- 1.2.3. OPTCL reserves the right to conduct e-RA and it is obligatory on part of bidder(s) invited to participate in e-RA process once they have responded to the techno-commercial bid.
- 1.2.4. Prior intimation/ Notice for RA invitation will be given to techno-commercially qualified bidders regarding the date & time of opening of the e-RA.
 - A. The start bid price (SBP) for e-Reverse Auction of each bidder under a particular package shall be the L1 evaluated price for the subject package including Taxes & Duties for the total scope for subject Package. Taking the above discovered L1 price as the upper limit e-RA will be conducted to determine the lowest possible price.

- B. Reverse Auction will be conducted amongst first 50% of the technically qualified bidders arranged in order of prices from lowest to highest, as L1, L2, L3-----Ln, and L1 price will be discovered. Minimum of 3 bidders shall be eligible for e RA. (eg. If 4 bidders are financially evaluated then the L1, L2 and L3 bidders shall be eligible for e-RA). Number of bidders eligible for participating in RA would be rounded off to next higher integer value if number of technically qualified bidders is odd (e.g. if 7 bids are technically qualified, then RA will be conducted amongst L1 to L4).
 - C. However, in case only two bidders are found to be responsive, e-RA would be carried out with both the parties without any elimination. However, OPTCL reserves the right to invite the evaluated L1 bidder for negotiation without conducting the e-RA.
 - D. In case of price submitted by any bidder is found to be abnormal, OPTCL reserves the right to reject the bid of the bidder(s).
 - E. Rank of bidders would be displayed as per the total cost to OPTCL, i.e including Taxes and Duties payable by OPTCL as per the provisions of the bidding document & after e-RA process is over.
- 1.2.5. Names of bidders/ vendors shall not be disclosed during the e-RA process. Names of bidders/ vendors shall be anonymously masked in the e-RA process as per current DoP.
- (i) In case of RA, start/ reference price and step value of decrement shall be indicated to the bidders at the start of the auction. Any participating bidder can bid one or multiple step decrement lower than the prevailing lowest bid at that time. The Bidder shall be able to view Bid Start Price, Bid Decrement Value, Prevailing Lowest Bid value, last Bid Placed by him and time left for bidding.
 - (ii) The step value of decrement in a package to be offered by bidder (the minimum amount of reduction in the total bid price including all taxes & duties during auction) , shall be kept at 0.15% of L1 bidder's final evaluated price (or) at approved amount as decided by OPTCL.
 - (iii) Bidders can only quote any value lower than their previous quoted price. However, at no stage, increase in Price will be permissible.
 - (iv) At any point during Reverse Auction, bidding Price field (Total price) shall remain enabled for the bidders. The initial auction period (1st slot) will be of thirty (30) minutes with provision of auto extension by (10) ten minutes from the schedule/ extended closing time, if any fresh lower bid is received in last ten minutes of initial auction period or extended auction period..
 - (v) However, bidders are advised not to wait till the last minute or last few seconds to enter their bid during the period of e-reverse auction to avoid complication related with internet connectivity, network problem, system crash down, power failure etc.
- 1.2.6. After conclusion of e-Reverse Auction i.e (Closing Price in Reverse Auction will be taken as offered price by the L1 bidder), decrease in price of individual head of the template shall be considered proportionately on all individual line items of the respective head of the price schedule of the successful L1 bidder .

(i) Any bid received at the tender wizard server end subsequent to closure of the e-RA shall be summarily rejected and shall not be considered as a valid bid under whatsoever circumstances. For this purpose, tender wizard server log shall prevail.

(ii) The bidder shall not involve himself or any of his representatives in price manipulation of any kind directly or indirectly by communicating with other bidders.

(iii) During Reverse Auction, If no bid is received within the specified time, OPTCL, at its discretion, may decide to close the reverse auction process/ proceed with conventional mode of tendering [Evaluation of Part-II (price bid) submitted by bidders earlier].

1.2.7. Consequent upon completion of e-Reverse Auction, OPTCL's decision on award of contract shall be final and binding on the bidders.

1.2.8. OPTCL shall be at liberty to call the L1 bidder for further process/ negotiation and also at liberty to cancel the e-reverse auction process/ re-tender at any time, without assigning any reason thereof. OPTCL can decide to reschedule or cancel any reverse auction: the bidders shall be informed accordingly.

1.2.9. OPTCL/ Service Provider shall not have any liability to bidders for any interruption or delay in access to the e-Tender site/ Reverse Auction link irrespective of the cause.

4. Qualification of Bidder (OUT RIGHT REJECTION CRITERIA):

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 cover envelope super scribing the Tender Notice No & Date of opening of tender clearly on the envelope cover.

- I. Submission of BID Form through e-Tender only.
- II. DD/online receipt towards Tender paper Cost.
- III. DD towards EMD
- IV. Tender Processing Fee: Online Receipt.

B. SECTION-II

9. INSTRUCTIONS TO BIDDERS:

- i. 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.
- ii. After opening of tender 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 the bids from the bidder for similar items against subsequent tender call notice of OPTCL, may not be considered.
- iii. 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.
- iv. Conditional Offer: Conditional offers shall not be accepted.
- v. 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.
- vi. 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.

9.1. General Terms & Conditions of the Contract

I. Scope of work:

1. Scope of work comprises supply, installation, commissioning and integration of all components (except the exclusion list as mentioned hereunder) of the “**PACKAGE – B** (Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference, display for conference Hall) of OPTCL Tech Tower building along with other accessories that meet the full functionality, provide the maintenance services during the warranty period of the systems.

1.1 List of items explicitly included in warranty

- a) Installation of Operating System Software, Firmware required for running of the system.
- b) Up gradation of firmware versions in case of Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference.

9.2 DEFINITION OF TERMS:

- (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.

- (e) "Contract Price" shall mean the sum named in or calculated in accordance with the provisions of the contract as the "contract price" which shall include packing, forwarding freight, Insurance, Excise Duty, GST if applicable.
- (f) "General Condition" shall mean these General Condition of Contract.
- (g) "The Specification" shall mean the specification issued with the General Conditions and shall include the schedules.
- (h) "Month" shall mean of calendar month.
- (i) "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.
- (j) The term "contract" shall mean & include General Conditions, Specifications, and Schedules, form of tender, covering letter, schedule of prices, and any special conditions applying the particular contract, specifications and agreement to be entered in.
- (l) 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.

9.3 GUIDELINES FOR THE BIDDER:

The Contractor shall examine the instructions to Bidders, 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. The purchaser shall not be responsible for any misunderstanding or incorrect information obtained by the contractor other than information given to the contractor in writing by the purchaser.

10. (a) PAYING OFFICER:-

The Drawing & Disbursing Officer of OPTCL Hqrs., Bhubaneswar shall be the paying officer for this contract.

(b) OFFICER IN-CHARGE OF WARRANTY/MAINTENANCE:-

Officer In-Charge Maintenance of our office is the officer-in-charge to interact with you in matters pertaining to maintenance of above equipment.

11. CONTRACT'S DEFAULT LIABILITY:

- i) The purchaser may upon written notice of default to the contractor terminate the contract in circumstances detailed hereunder.
If in the judgment of the purchaser, the contractor fails to make delivery of material within the time specified in the contract or within the period for which extension has been granted by the purchaser, to the contractor.
- ii) In the event purchaser terminates the contract in whole or in parts, the purchaser reserves the right to purchase upon such terms and in such a manner as he may deem appropriate, material similar to that of terminated and the contractor will be liable to the purchaser for any additional costs for such similar spares/service and/or for penalty for delay as defined in penalty clause. Execution of contract under such circumstances shall however be on express written willingness of both the parties.

12. REJECTION OF Spares:

In the event on any of the material 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 material 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 7 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.

The contractor shall not be allowed any extension in contract completion period due to time taken to replenish the rejected material/work.

13. EXTENSION OF TIME:

If the delivery of material/service 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 SLA 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.

14. Warranty

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

- a) The vender shall rectify the fault within 2 hours from the time of registration of the call.
- b) 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 user.
- c) The vendor should also guarantee that the spare 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 contract. The vendor should also guarantee that the equipment and its accessories supplied would perform satisfactorily as per requirements mentioned in the specification.
- d) In case of violation of any of the conditions of warranty, the Composite Bank Guarantee shall be invoked by the purchaser. In case the violation of the condition of warranty is not set right by the vendor, the Composite Bank Guarantee shall be extended beyond contract period for which the vendor shall request the banker for the same. Otherwise the purchaser will be forced to invoke the said Composite Bank Guarantee.
- (e)** If any equipment gives continuous trouble, say six times in one month, during the WARRANTY period, the vendor shall replace the equipment with new equipment without any additional cost to the Purchaser.
- (f)** In case, the downtime of a unit exceeds 48 hours and the fault is not rectified or faulty equipment not replaced within stipulated period, a penalty of Rs.100/- per day per faulty unit will be charged and will be recovered from the performance guarantee or from any sum thereafter that may become due to the vendor out of this contract or any other contract with OPTCL, Bhubaneswar.

24 hours or part thereof beyond the stipulated downtime shall be counted as a full day for calculation and imposition of penalty.

NOTE: The penalty will be adjusted from the submitted invoice / 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.

15. PRICE:

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

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

(c) 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 from the vendor's account and purchasers shall not be responsible in any way in this regard. All such costs shall be presumed to have been included in contract price.

16. VALIDITY:

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

17. TERMS OF PAYMENT:

a. 60% payment shall be released on receipt of items in good condition on delivery, verification and stores entry of the all ordered **PACKAGE - B** Items which are fully inspected and inspection report is duly accepted by IT, OPTCL.

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

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

iii. The contract price shall mean firm price.

iv. For 60% Payment: Bellow mentioned documents are required.

1. Bills in triplicate duly certified for verification, stock entry and countersigned.

2. Inspection Report.

3. Physical verification acceptance Receipt.

4) Delivery Challan.

5) Submission of BG as per clause 26. Below:

b. Balance 40% shall be payable after submission of Bellow mentioned documents are required.

i. Installation certificate of last item of **PACKAGE - B**,

ii. Bills in triplicate.

iii. Approved OEM warranty certificate.

Statutory deduction of Tax shall be made as per applicable rules.

18. Paying Officer:

DDO HQRS OPTCL shall be the paying officer for this contract.

19. Consignees:

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

20. COMPOSITE BANK GUARANTEE:

A composite Bank Guarantee at the rate of 10% (Ten percent) of the contract price shall be furnished from any Nationalized/Scheduled Commercial Bank to the Chief General Manager (I.T), OPTCL within 4 (Four) weeks of issue of the purchase order, executed in a non-judicial stamp paper worth of Rs. 100/- (Rupees Hundred) only subject to change as per ODISHA Stamp Duty Act.

The CBG must be valid for a period of 65 (Sixty Five) months from the schedule date of delivery of last lot strictly as per pro-forma enclosed, towards security, 100% payment and performance guarantee purposes, failing which the purchase order will be treated as cancelled. In the event of any breach or default in all or any of the conditions set forth and provided in the purchase order, the purchaser may forfeit the whole amount of the composite bank guarantee. The forfeiture of the composite Bank guarantee shall not in any way affect, limit or extinguish any remedy or relief to which the above authority may at any time be lawfully entitled. No interest will be payable on Composite Bank Guarantee amount.

21. PRICE REDUCTION SCHEDULE TOWARDS NON PERFORMANCE

Delay in execution of any supply order against this tender shall attract price reduction schedule.

A. For Supply of H/W Items

If the supplier fails to complete the delivery and installation as per delivery schedule specified, OPTCL shall recover from the supplier price reduction schedule @ of 0.5% of the taxable value (100%) of the uninstalled portion (item) for each calendar week or part there of subject to a maximum of 5% of the ordered taxable price. Imposition of price reduction schedule is however subject to force majeure conditions.

B. For Maintenance Service as per SLA of OPTCL.

For this purpose the date of receipt of e-license through e-mail shall be reckoned as the date of delivery. Imposition of price reduction schedule is however subject to force majeure conditions.

22. Force Majeure Clause

The bidder 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, restrictions, strikes, Freight Embargoes / failure in downloading, due to network problems, down, link failure, site not ready, concerned user absent and provided that the bidder 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.

23. 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.

24. 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 days of receipt of the materials at destination without waiting for the settlement of their claims with the carriers and underwriters. In case the replacement of damaged item/part is not done within 30 days, the material shall be treated as not delivered and shall attract penalty till replacement as per clause under heading "Rejection of Materials".

25. 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.

26. LIMITATION OF LIABILITY

The CONTRACTOR's total liability for all claims, costs, losses, expenses, actions, proceedings arising out of or in connection with this W.O and scope of work shall be limited to the contract value. In no event shall either party be liable for any indirect, special, incidental, consequential or punitive damages (including without limitation damages for business interruption, loss of business profits, loss of business information or any other monetary loss) howsoever caused arising out of or in connection with the W.O and whether or not the party has been advised of the possibility of such damages. The CONTRACTOR shall be liable only for a fault, which is exclusively attributable to it or its contractors, and shall be discharged of its liabilities to the extent that a fault is attributable to the OWNER or its contractors.

27. 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.

28. GST, INCOME TAX CLEARANCE:

GST certificate and PAN should be enclosed with the tender.

29. 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 quantity and/or equipment ties of materials at the time of placing final Order. After placing of the order the purchaser may defer the quantity of the materials. It may be clearly understood by the tenderer that the purchaser need not assign any reason for the above action.

30. CONTRACTOR'S RESPONSIBILITY:

Not with standing anything mentioned in the specification or subsequent approval or acceptance of the purchaser, the ultimate responsibility for WARRANTY of equipment and satisfactory performance shall rest with the tenderers.

31. MINIMUM QUALIFICATION CRITERIA OF BIDDERS:

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

32. LANGUAGE AND MEASURES:

All documents pertaining to the contract including specifications, schedule, notices, correspondences, operating and maintenance instructions, drawings or any other writing shall be written in English language. The metric system of measurement shall be used exclusively in this contract.

33. CORRESPONDENCES:

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

34. LEGAL ADDRESS OF THE PARTIES:

The address of the parties to the contract shall be specified.

35. PURCHASER:

Chief General Manager (IT), ODISHA Power Transmission Corporation Ltd.
3rd Floor, OPTCL Tower, Janapath,
Bhubaneswar – 751 022, Odisha, India

CONTRACTOR:

(TO BE FILLED BY THE TENDERER)

36. COPY RIGHT 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.

Chief General Manager (IT)

C. SECTION-III

Specification Compliance or Deviations tables with reference to the specifications of items mentioned hereunder.

TECHNICAL SPECIFICATIONS

SCHEDULE-A

| Sr. No | Specifications | Qty | Compliance Yes / No | Remarks |
|----------|--|----------|---------------------|---------|
| | Technical Specification for 24 Port Layer 3 Switch | | | |
| 1 | Architecture | 2 | | |
| | Shall be 19" Rack Mountable | | | |
| | Shall have dual power supplies | | | |
| | The switch should have minimum 20x10/100/1000BASE-T RJ-45 ports ,4 dual-personality ports - 10/100/1000BASE-T RJ-45 or 100/1000BASE-X Combo Ports and 4 SFP+ fixed 1000/10000 SFP+ ports | | | |
| | The switch shall have one expansion slots to support up to two 10G SFP+ Ports or two 10GBASE-T ports or two 2 40GbE ports, | | | |
| | Should have 1x RJ-45 serial console port and 1x RJ-45 out-of-band management port | | | |
| | Should support 32K entries (IPv4), 16K entries (IPv6) and 32K MAC address entries | | | |
| | Shall support switching capacity of 280 Gbps | | | |
| | The Switch should have modular operating system | | | |
| 2 | Resiliency | | | |
| | Shall have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform as single Layer-2 switch and Layer-3 router. | | | |
| | Shall support virtual switching fabric creation across nine switches using 10G Ethernet Links | | | |
| | IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol | | | |
| | IEEE 802.3ad Link Aggregation Control Protocol (LACP) | | | |

| | | | | |
|----------|--|--|--|--|
| | Ring protocol support to provide sub-100 ms recovery for ring Ethernet-based topology | | | |
| | Virtual Router Redundancy Protocol (VRRP) to allow a group of routers to dynamically back each other up to create highly available routed environments | | | |
| | Graceful restart for OSPF, IS-IS and BGP protocols | | | |
| | Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP protocols | | | |
| 3 | Layer 2 Features | | | |
| | Shall support up to 4,000 port or IEEE 802.1Q-based VLANs | | | |
| | Shall support GARP VLAN Registration Protocol or equivalent feature to allow automatic learning and dynamic assignment of VLANs | | | |
| | Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops | | | |
| | Shall support IEEE 802.1ad QinQ and Selective QinQ to increase the scalability of an Ethernet network by providing a hierarchical structure | | | |
| | Shall support Jumbo frames on GbE and 10-GbE ports | | | |
| | Internet Group Management Protocol (IGMP), Multicast Listener Discovery (MLD) snooping | | | |
| | IEEE 802.1AB Link Layer Discovery Protocol (LLDP) | | | |
| | Multicast VLAN to allow multiple VLANs to receive the same IPv4 or IPv6 multicast traffic; Should support Vxlan, EVPN from day-1. | | | |
| | Should support Multicast Source Discovery Protocol (MSDP) | | | |
| 4 | Layer 3 Features (any additional licenses required shall be included) | | | |
| | Static Routing for IPv4 and IPv6 | | | |
| | RIP for IPv4 (RIPv1/v2) and IPv6 (RIPng) | | | |
| | OSPF for IPv4 (OSPFv2) and IPv6 (OSPFv3) | | | |
| | IS-IS for IPv4 and IPv6 (IS-ISv6) | | | |
| | Border Gateway Protocol 4 with support for IPv6 addressing | | | |
| | Policy-based routing | | | |
| | Unicast Reverse Path Forwarding (uRPF) | | | |

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|----------|---|--|--|--|
| | IPv6 tunnelling to allow IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet | | | |
| | Dynamic Host Configuration Protocol (DHCP) client, Relay, and server | | | |
| | PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM) for IPv4 and IPv6 multicast applications | | | |
| | MPLS capability including MPLS VPNs and MPLS Traffic Engineering (MPLS TE), should support VPLS. | | | |
| 5 | QoS and Security Features | | | |
| | Access Control Lists for both IPv4 and IPv6 for filtering traffic to prevent unauthorized users from accessing the network | | | |
| | Port-based rate limiting, and access control list (ACL) based rate limiting | | | |
| | Congestion avoidance using Weighted Random Early Detection (WRED) | | | |
| | Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted deficit round robin (WDRR) and weighted random early discard (WRED) | | | |
| | IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port | | | |
| | Media access control (MAC) authentication to provide simple authentication based on a user's MAC address | | | |
| | Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers | | | |
| | Port security and port isolation | | | |
| 6 | Management Features | | | |
| | Configuration through the CLI, console, Telnet/SSHv2 and Web browser management interfaces | | | |
| | SNMPv1, v2, and v3 and Remote monitoring (RMON) support | | | |
| | sFlow (RFC 3176) or equivalent for traffic analysis | | | |
| | FTP, TFTP, and SFTP support | | | |
| | Port mirroring to duplicate port traffic (ingress and egress) to a local or remote monitoring port. Shall support minimum four mirroring groups | | | |

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|----------|---|--|--|--|
| | RADIUS/TACACS+ for switch security access administration | | | |
| | Network Time Protocol (NTP) or equivalent support | | | |
| | Shall have Ethernet OAM (IEEE 802.3ah) management capability | | | |
| 7 | Environmental Features | | | |
| | Shall provide support for RoHS and WEEE regulations | | | |
| | Operating temperature of 0°C to 45°C | | | |
| | Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A | | | |
| 8 | Warranty: 5 years onsite Warranty | | | |

| Technical Specification for 24 Port Layer 2 Switch | | | | |
|---|---|------------|----------------------------|----------------|
| Sr. No. | Specification | QTY | Compliance (Yes/No) | Remarks |
| 1 | Architecture | 24 | | |
| | Shall be 19" Rack Mountable Chassis or Stackable or Integrated solution | | | |
| | Switch shall have 24 Nos. of 10/100/1000 Base-T Ports, 4 nos. 10G SFP+ Ports support 1000 Base-T, SX, LX, SR, LR transceiver | | | |
| | Shall have one out of management (RJ-45) Port | | | |
| | Shall have switching capacity of 128 Gbps | | | |
| | Shall have up to 95 million pps switching throughput | | | |
| | Shall have modular Operating system | | | |
| 2 | Resiliency | | | |
| | The Switch should have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform as single Layer-2 switch and Layer-3 Switch. The Fabric should be managed by a single IP Address. Should support eight switches in a stack. | | | |
| | The connected servers or switches should be attached using standard LACP for automatic load balancing and high availability. | | | |

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|----------|--|--|--|--|
| | The modules/cables to create virtual switching fabric shall be provided as per requirement | | | |
| | IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol | | | |
| | IEEE 802.3ad Link Aggregation Control Protocol (LACP) | | | |
| | Shall support 24 Groups of up to 8 ports in a link aggregation | | | |
| 3 | Layer 2 Features | | | |
| | Shall support 16K MAC address table | | | |
| | Shall support up to 2,000 port or IEEE 802.1Q-based VLANs | | | |
| | Shall support GVRP or equivalent feature to allow automatic learning and dynamic assignment of VLANs | | | |
| | Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops | | | |
| | Shall support IEEE 802.1ad QinQ and Selective QinQ to increase the scalability of an Ethernet network by providing a hierarchical structure | | | |
| | Shall support Jumbo frames on GbE ports | | | |
| | Internet Group Management Protocol (IGMP) | | | |
| | Multicast Listener Discovery (MLD) snooping | | | |
| | IEEE 802.1AB Link Layer Discovery Protocol (LLDP) | | | |
| | The switch shall support 64 instances of MSTP | | | |
| | The switch shall support PVST+ | | | |
| | Shall support port isolation or equivalent | | | |
| | Shall support Voice VLAN feature to automatically assigns VLAN and priority to devices like IP phones | | | |
| 4 | Layer 3 Features (any additional licenses required shall be included) | | | |
| | Static Routing for IPv4 | | | |
| | Static Routing for IPv6 | | | |
| | Shall support RIPv1, RIPv2, OSPFv2 and OSPFv3 | | | |
| | User Datagram Protocol (UDP) helper function to allow UDP broadcasts to be directed across router interfaces | | | |

| | | | | |
|----------|---|--|--|--|
| | Dynamic Host Configuration Protocol (DHCP) client and Relay | | | |
| | Proxy ARP to allow normal ARP operation between subnets | | | |
| | Switch shall support 1K Routing table | | | |
| 5 | QoS and Security Features | | | |
| | Access Control Lists for Layer 2 to Layer 4 traffic filtering | | | |
| | Shall support global ACL, VLAN ACL, port ACL, and IPv6 ACL | | | |
| | Traffic classification using multiple match criteria based on Layer 2, 3, and 4 information | | | |
| | Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR) and SP+WRR | | | |
| | Shall support applying QoS policies on a port, VLAN, or whole switch, to set priority level or rate limit selected traffic | | | |
| | IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port | | | |
| | Media access control (MAC) authentication to provide simple authentication based on a user's MAC address | | | |
| | Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers | | | |
| | Port security and port isolation | | | |
| | STP BPDU port protection to prevent forged BPDU attacks | | | |
| | STP Root Guard to protect the root bridge from malicious attacks or configuration mistakes IP Source guard to prevent IP spoofing attacks | | | |
| | IP Source guard to prevent IP spoofing attacks | | | |
| | Dynamic ARP protection blocking ARP broadcasts from unauthorized hosts | | | |
| 6 | Management Features | | | |
| | Configuration through the CLI, SSL, console, SSH, SNMPv3 and Web Management | | | |
| | SNMPv1, v2, and v3 and Remote monitoring (RMON) support | | | |
| | sFlow (RFC 3176) or equivalent for traffic analysis | | | |

| | | | | |
|----------|--|--|--|--|
| | Management security through multiple privilege levels | | | |
| | FTP, TFTP, and Secure FTP support | | | |
| | Port mirroring to mirror ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port | | | |
| | RADIUS/HWTACACS for switch security access administration | | | |
| | Network Time Protocol (NTP) or equivalent support | | | |
| | Shall have Ethernet OAM (IEEE 802.3ah) management capability | | | |
| 7 | Environmental Features | | | |
| | Shall provide support for RoHS and WEEE regulations | | | |
| | Shall have features to improve energy efficiency like variable-speed fans, shutoff unused ports etc | | | |
| | Operating temperature: 0°C to 45°C | | | |
| | Operating relative humidity: 10% to 90%, noncondensing | | | |
| | Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A | | | |

| Technical Specification for 24 Port Layer 2 POE+ Switch | | | | |
|--|---|------------|----------------------------|----------------|
| Sr. No. | Specification | QTY | Compliance (Yes/No) | Remarks |
| 1 | Architecture | 19 | | |
| | Shall be 19" Rack Mountable Chassis or Stackable or Integrated solution | | | |
| | Switch shall have 24 Nos. of 10/100/1000 Base-T POE+ Ports, 4 nos. 10G SFP+ Ports support 1000 Base-T, SX, LX, SR, LR transceiver | | | |
| | Shall have one out of management (RJ-45) Port | | | |
| | Shall have switching capacity of 128 Gbps | | | |
| | Shall have up to 95 million pps switching throughput | | | |
| | Shall have modular Operating system | | | |
| | Shall have 370W POE budget | | | |
| 2 | Resiliency | | | |

| | | | | |
|----------|---|--|--|--|
| | The Switch should have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform as single Layer-2 switch and Layer-3 Switch. The Fabric should be managed by a single IP Address. Should support eight switches in stack. | | | |
| | The connected servers or switches should be attached using standard LACP for automatic load balancing and high availability. | | | |
| | The modules/cables to create virtual switching fabric shall be provided as per requirement | | | |
| | IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol | | | |
| | IEEE 802.3ad Link Aggregation Control Protocol (LACP) | | | |
| | Shall support 24 Groups of up to 8 ports in a link aggregation | | | |
| 3 | Layer 2 Features | | | |
| | Shall support 16K MAC address table | | | |
| | Shall support up to 2,000 port or IEEE 802.1Q-based VLANs | | | |
| | Shall support GVRP or equivalent feature to allow automatic learning and dynamic assignment of VLANs | | | |
| | Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops | | | |
| | Shall support IEEE 802.1ad QinQ and Selective QinQ to increase the scalability of an Ethernet network by providing a hierarchical structure | | | |
| | Shall support Jumbo frames on GbE ports | | | |
| | Internet Group Management Protocol (IGMP) | | | |
| | Multicast Listener Discovery (MLD) snooping | | | |
| | IEEE 802.1AB Link Layer Discovery Protocol (LLDP) | | | |
| | The switch shall support 64 instances of MSTP | | | |
| | The switch shall support PVST+ | | | |
| | Shall support port isolation or equivalent | | | |

| | | | | |
|----------|---|--|--|--|
| | Shall support Voice VLAN feature to automatically assigns VLAN and priority to devices like IP phones | | | |
| 4 | Layer 3 Features (any additional licenses required shall be included) | | | |
| | Static Routing for IPv4 | | | |
| | Static Routing for IPv6 | | | |
| | Shall support RIPv1, RIPv2, OSPFv2 and OSPFv3 | | | |
| | User Datagram Protocol (UDP) helper function to allow UDP broadcasts to be directed across router interfaces | | | |
| | Dynamic Host Configuration Protocol (DHCP) client and Relay | | | |
| | Proxy ARP to allow normal ARP operation between subnets | | | |
| | Switch shall support 1K Routing table | | | |
| 5 | QoS and Security Features | | | |
| | Access Control Lists for Layer 2 to Layer 4 traffic filtering | | | |
| | Shall support global ACL, VLAN ACL, port ACL, and IPv6 ACL | | | |
| | Traffic classification using multiple match criteria based on Layer 2, 3, and 4 information | | | |
| | Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR) and SP+WRR | | | |
| | Shall support applying QoS policies on a port, VLAN, or whole switch, to set priority level or rate limit selected traffic | | | |
| | IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port | | | |
| | Media access control (MAC) authentication to provide simple authentication based on a user's MAC address | | | |
| | Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers | | | |
| | Port security and port isolation | | | |
| | STP BPDU port protection to prevent forged BPDU attacks | | | |
| | STP Root Guard to protect the root bridge from malicious attacks or configuration mistakes IP Source guard to prevent IP spoofing attacks | | | |

| | | | | |
|----------|--|--|--|--|
| | IP Source guard to prevent IP spoofing attacks | | | |
| | Dynamic ARP protection blocking ARP broadcasts from unauthorized hosts | | | |
| 6 | Management Features | | | |
| | Configuration through the CLI, SSL, console, SSH, SNMPv3 and Web Management | | | |
| | SNMPv1, v2, and v3 and Remote monitoring (RMON) support | | | |
| | sFlow (RFC 3176) or equivalent for traffic analysis | | | |
| | Management security through multiple privilege levels | | | |
| | FTP, TFTP, and Secure FTP support | | | |
| | Port mirroring to mirror ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port | | | |
| | RADIUS/HWTACACS for switch security access administration | | | |
| | Network Time Protocol (NTP) or equivalent support | | | |
| | Shall have Ethernet OAM (IEEE 802.3ah) management capability | | | |
| 7 | Environmental Features | | | |
| | Shall provide support for RoHS and WEEE regulations | | | |
| | Shall have features to improve energy efficiency like variable-speed fans, shutoff unused ports etc | | | |
| | Operating temperature: 0°C to 45°C | | | |
| | Operating relative humidity: 10% to 90%, noncondensing | | | |
| | Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A | | | |

| Technical Specification for Indoor Access Point | | | | |
|--|---|------------|----------------------------|----------------|
| Sr. No | Specifications | Qty | Compliance (Yes/No) | Remarks |
| | Technical Specification | 47 | | |
| 1 | Access Point radio should be minimum 2x2 MIMO with 2 spatial streams on 5 Ghz. The AP should have Dual Radio 802.11ax access point with OFDMA and Multi-User MIMO | | | |

| | | | | |
|----|---|--|--|--|
| | (MU-MIMO). Should have peak antenna gain of 4.9dBi in 2.4GHz and 5.7dBi in 5GHz. | | | |
| 2 | AP should have one 10/100/1000 Mbps speed LAN port and Auto-sensing link speed | | | |
| 3 | Access point should support Built-in technology that resolves sticky client issues for Wi-Fi 6 and Wi-Fi 5 devices | | | |
| 4 | Access point should have in-built Bluetooth 5 and Zigbee support | | | |
| 5 | Access point should have 1.7 Gbps of aggregate data rates | | | |
| 6 | Access Point can have integrated internal antenna | | | |
| 7 | Access point should have Internal Bluetooth Low energy beacon to support advance location-based service for Mobile engagement solutions and Applications. | | | |
| 8 | Should support 16x BSSID per AP radio. | | | |
| 9 | The access point should be capable of performing security scanning and serving clients on the same radio. It should be also capable of performing spectrum analysis and security scanning using same radio. | | | |
| 10 | Access point should support 802.3af/at POE standard. | | | |
| 11 | Access point should have option of external power adaptor as well Should have factory reset button and dedicated console port | | | |
| 12 | Must operate as a sensor for wireless IPS | | | |
| 13 | AP model proposed must be able to be both a client-serving AP and a monitor-only AP for Intrusion Prevention services | | | |
| 14 | Access point must incorporate radio resource management for power, channel, coverage hole detection and performance optimization | | | |
| 15 | The AP should support Advanced Cellular Coexistence (ACC) to minimizes interference from 3G/4G cellular networks, distributed antenna systems and commercial small cell/femtocell equipment | | | |
| 16 | The AP should support supports priority handling and policy enforcement for unified communication apps, including Skype for Business with encrypted video conferencing, voice | | | |
| 17 | The AP should support deep packet inspection to classify and block, prioritize, or | | | |

| | | | | |
|----|---|--|--|--|
| | limit bandwidth for thousands of applications in a range of categories | | | |
| 18 | Should support standalone/autonomous mode for specific requirement | | | |
| 19 | AP should be provided with proper mounting kit | | | |
| 20 | The Access point should support Transmit beam-forming (TxBF) for increased signal reliability and range | | | |
| 21 | The Access point should support 802.11ax Target Wait Time (TWT) to support low-power client devices | | | |
| 22 | Regulatory Compliance FCC/ISED CE Marked RED Directive 2014/53/EU EMC Directive 2014/30/EU Low Voltage Directive 2014/35/EU UL/IEC/EN 60950 EN 60601-1-1, EN60601-1-2 | | | |
| 23 | Certifications UL2043 plenum rating Wi-Fi Alliance: - Wi-Fi CERTIFIED a, b, g, n, ac - Wi-Fi CERTIFIED 6 (ax) - WPA, WPA2 and WPA3 - WMM - Passpoint (release 2) | | | |
| 24 | Should support 0-50degree operating temperature | | | |
| 25 | Warranty: 5 years onsite Warranty | | | |

| TECHNICAL SPECIFICATIONS FOR TRANSCEIVER | | | | |
|---|---|------------|---------------------------|----------------|
| Sr. No | Specification | Qty | Compliance Yes/ No | Remarks |
| 1 | Supply and installation of 10G Base -LX/LH SFP Transceiver module, SMF, 1310nm, 9/125 um single mode fiber type up to 20KM Warranty: 5 years Onsite Warranty | 20 | | |
| 2 | Supply and installation of 1000 Base -LX/LH SFP Transceiver module, SMF, 1310nm, 9/125 um single mode fiber type up to 20KM Warranty: 5 years onsite Warranty | 20 | | |

| # | TECHNICAL SPECIFICATION FOR 120KVA/125 KVA MODULAR UPS SYSTEM | | | |
|--------|---|--|-------------------|---------|
| Sr. No | Specification | Qty | Compliance Yes/No | Remarks |
| 1 | Technology | The UPS system should be of modular architecture, true online double conversion type latest technology IGBT based with inbuilt Isolation Transformer. Failure of one module should not lead to failure of entire UPS system. Each Module rating should be >/ = 30KW/25 KW. | 1 | |
| | PARAMETER | TENDER REQUIREMENT | | |
| | Capacity | 120KVA / 120KW | | |
| | Input | | | |
| | Input Voltage | 400 / 415 VAC, 3-phase, 4 wire | | |
| | Input Volatage Range | 230VAC to 475 VAC | | |
| | Input Frequency | 50 Hz. | | |
| | Input freq. range | 40 to 70 Hz. | | |
| | Input Power factor | > 0.99 | | |
| | Input THDI | < 3% | | |
| | Battery back up | 60 minutes | | |
| | Battery details | 72 nos. 12V 200AH SMF Battery or minimum 172800VAH to be supplied along with Rack & accessories. Battery make: AmaraRaja/ Rocket / Exide | | |
| | OUTPUT | | | |
| | Rated capacity | 120KVA / 120 KW | | |
| | Output Voltage | 380/400/415 volts, 3 Ph., 4 wire. | | |
| | Voltage Regulation | +/- 1% | | |
| | Output Frequency | 50 Hz. | | |
| | Output Frequency Sync range | (+/-) 2 Hz. | | |
| | Design UPS output power factor | Unity | | |
| | Galvanic isolation | The UPS should have isolation transformer inbuilt inside UPS System for input to output isolation. | | |
| | Overall Efficiency | > 96% in double conversion on line mode. | | |
| | Over load rating | 110% for 60 min; 125% 10min; 150% for 1 min | | |

| | | | | | |
|--|-----------------------------------|--|--|--|--|
| | Monitoring | UPS Should have inbuilt SNMP card and it should have in-built software to auto generate the e-mail in-case of any fault / input power failure. | | | |
| | Static bypass | Each UPS should have inbuilt SCR based static switch for auto transfer of load between inverter and bypass. | | | |
| | Self-capacity Test | Each UPS should have the facility to check its full capacity at site without any external load. | | | |
| | Maintenance bypass | Each UPS should have inbuilt maintenance bypass switch. | | | |
| | LCD display | The UPS should have LCD display for close control and monitoring of UPS status & performance. | | | |
| | Switchgear assembly | UPS should have following switch gears inbuilt in UPS System: 1) UPS Input switch 2) UPS Output switch 3) static Bypass input switch 4) Maintenance Bypass input switch 5) Battery Switch | | | |
| | General | | | | |
| | Noise level | UPS noise level should not exceed 60 dBA at 1 mtr distance | | | |
| | Design amb. temperature | 0 to + 40 deg C. | | | |
| | Humidity | up to 95 % RH non-condensing | | | |
| | Cooling | Forced Air cooled | | | |
| | Altitude | upto 1500 Metre without derating. | | | |
| | Certification | OEM should have ISO 9001, ISO 14001, ISO27001 & ISO 45001 certification | | | |
| | After Sales Service | The UPS OEM should have its service Centre available at nearest location to attend the service call within one hour. The details of service person to be mentioned in the tender document. | | | |
| | Installation of UPS | Includes of all accessories for INPUT and OUTPUT supply from main panel board to UPS and battery rack to UPS. | | | |
| | Warranty Hardware+ battery | 3 Years onsite Warranty | | | |

| # | TECHNICAL SPECIFICATIONS FOR IP PBX SYSTEM | | | |
|--------|---|-----|--------------------|---------|
| Sr. No | Specification | Qty | Compliance Yes/ No | Remarks |
| | For seamless integration, all the offered IP PBX System components like IP PBX, Voice Mail, IP Phones and Operator Phone must be from the same OEM. | 1 | | |
| | Solution should be scalable up to 350 lines in future if required | | | |
| | The system should be a converged communication System with ability to run TDM and IP on the same platform | | | |
| | IP PBX should support the flexible connection of Analog, Digital & IP (H.323 and SIP) Desk Phone in any combination, and Soft Phones within one system. | | | |
| | System should support mobility, IM and presence. Support UC Mobility Client Users for Laptop & Mobile Devices (Android & iOS) in future if required by adding applications and licenses | | | |
| | The system should support standards-based multi-site networking, using QSIG, H.323 trunks. | | | |
| | Voice CODEC support G.711, G.729, G.729a & G.722 or any less utilization bandwidth across WAN and LAN | | | |
| | System should have built-in SIP and H.323 gatekeeper functionality without the need to put any additional hardware | | | |
| | System should support SIP trunking to Service Providers, allowing non-SIP phones to make SIP calls | | | |
| | The system should provide complete inbuilt encryption capabilities, with the ability to encrypt all traffic (media and call control signalling) between IP phones, soft phones, call controllers. | | | |
| | System should be able to provide voicemail functionality | | | |
| | The system should support PRI/E1/Analog/IP/SIP Trunks. | | | |

| | | | | |
|--|---|--|--|--|
| | The system should be able to provide hybrid end points i.e. both IP and TDM. They should also provide support for 100% TDM endpoints. | | | |
| | The proposed communication system should have a highly secured, encrypted IP supporting hybrid Trunks e.g. Analog CO, Digital Trunks (BRI and PRI), IP Trunks (H.323/SIP) | | | |
| | System should have in built-in DHCP Server, which should be able to give IP Addresses to the endpoints. | | | |
| | System should support Diffserv for QoS (Quality of service) for the voice packets traveling over data networks | | | |
| | The equipment quoted by bidder must be SIP compliant | | | |
| | The equipment quoted by bidder must be TEC approved | | | |
| | DESIRED FEATURES & FACILITIES OF IP PBX: | | | |
| | The offered solution should provide the following features as a part of its telephony functions. | | | |
| | Call Coverage | | | |
| | Call Forwarding | | | |
| | Call Hold | | | |
| | Call Intrude | | | |
| | Call Park | | | |
| | DND | | | |
| | Ring Back When Free | | | |
| | Suspend Call Waiting | | | |
| | Account Codes | | | |
| | Call Barring | | | |
| | Group Paging | | | |
| | Mobile Twinning | | | |
| | Alternate Route Selection | | | |
| | Flexible numbering Schemes | | | |

| | | | | |
|--|--|--|--|--|
| | Queue announcements | | | |
| | Station Messaging Detail Record | | | |
| | Authorization Codes - 5-7 digit authorization code to make outgoing toll calls for ensuring no misuse of the system. | | | |
| | Automatic Call Back – User can register ACB feature to any extension of the offered system. | | | |
| | Call pickup within the group as well as outside the group | | | |
| | Automatic Call-back, Call Forwarding, Call Forward, Busy/Don't Answer, Data Privacy, Extended Forwarding, Extended Call Forward Busy/Don't Answer, Priority Calling, Restrict Call Forwarding Off-Net, Personal Station Access, Trunk –to-Trunk, Off-Hook Alert. | | | |
| | DID/DOD (Direct Inward/Outward Dialling) – The proposed system must support direct inward dialling for external parties to call in. | | | |
| | Distinctive Ringing – To provide audibly different ringing patterns between internal, external and special feature calls. | | | |
| | System Abbreviated Dialling - To have the ability to store a list of frequently called numbers that will be available on a systemwide basis to all users. | | | |
| | The system should support internal MOH (Music on Hold), which should be uploaded using the .Wav file and should have an audio input port for external MOH connectivity. | | | |
| | CLI (Caller Line Identification) facility (CLIP/CLIR) - Calling Numbers (internal & external) should be displayed on all Analog extensions (FSK support phone). | | | |
| | Voicemail Features | | | |
| | System should have inbuilt voice mail system | | | |
| | VM should support Auto Attendant | | | |
| | IVR functionality should be available | | | |
| | Conferencing Features | | | |
| | The system should have built-in 28 party audio conferencing | | | |
| | Multiple conferences with variable number of users should be possible within each of the conference. | | | |

| | | | | |
|---|---|-----|--|--|
| | Management Interface | | | |
| | System should be able to be configured and administered using a GUI based application | | | |
| | System should support SNMP based network management | | | |
| | Phones | | | |
| # | Technical Specification for IP Phone Type-1 (Basic-Phone) | 171 | | |
| | 2.5" (diagonal) monochrome display—280 x 180 pixels or better | | | |
| | SIP protocol support | | | |
| | Multiple line phone with LED indicators around display (minimum 4 button) | | | |
| | 4 Context sensitive soft keys | | | |
| | Hard buttons for phone, messages, contacts, history, home, navigation cluster, headset, speaker, volume, mute | | | |
| | LEDs for speaker, mute, headset,message, history | | | |
| | Wideband audio in handset and wired headset | | | |
| | Full duplex speakerphone & handset | | | |
| | Message waiting indicator | | | |
| | Mute indicator with optional mute alerting | | | |
| | Two Gigabit Ethernet (10 / 100 / 1000) interface for line and PC | | | |
| | PoE Class (IEEE 802.3af) registers as class 1 device and supports 802.3az | | | |
| | Optional AC to 5volt power supply | | | |
| | | | | |
| | | | | |
| # | Technical Specification for IP Phone for Operator | 1 | | |
| | 3.2" (diagonal) color display - 300 x 220 pixels. | | | |
| | SIP & H.323 protocol support | | | |
| | 8 buttons with dual LEDs and 4 softkeys | | | |

| | | | | |
|---|--|----|--|--|
| | Support up to three 24-button Expansion Modules (1 number of expansion module with 24 button to be supplied) | | | |
| | Hard buttons for phone, messages, contacts, history, home, navigation cluster, headset, speaker, volume, mute | | | |
| | LEDs for speaker, mute, headset, message, history | | | |
| | High definition audio quality | | | |
| | Integrated Gigabit Ethernet interface | | | |
| | Headset support | | | |
| | Optional Wi-Fi® / Bluetooth to be added if required | | | |
| | Wideband audio in handset and headset | | | |
| | Full duplex speakerphone | | | |
| | Message waiting indicator | | | |
| | Gigabit Ethernet (10/100/1000) line interface, Second Ethernet interface 10/100/1000 Mbps | | | |
| | PoE Class (IEEE 802.3af) registers as class 1 device and supports 802.3az | | | |
| | Optional AC to 5 volt power supply | | | |
| | | | | |
| # | Technical Specification for IP Phone Type-3 (Video-Phone) | 14 | | |
| | Display: Should have 7" or more touch screen with 800x480 px resolution color display with an integrated minimum 2 megapixels HD camera with 1080p30 resolution | | | |
| | Integral Switch: Should have integrated 2-port 10/100/1000 . RJ45 primary Gigabit Ethernet (10/100/1000 Mbps) PoE LAN port RJ45 secondary Gigabit Ethernet (10/100/1000 Mbps) port for a computer | | | |
| | Protocol: Should support SIP for signaling | | | |
| | Security: Should support SRTP and TLS for encryption and security | | | |

| | | | | |
|--|---|--|--|--|
| | Audio Codec: Wideband audio G.711, G.729, G.722, G.726 | | | |
| | Video Codec: H. 264 | | | |
| | Internet Protocol (IP): Should support Static, DHCP IP Address | | | |
| | Caller ID: Enables the delivery of a caller's identity to a user via the phone | | | |
| | Call History: History of Missed, Dialed and Received calls | | | |
| | Speaker phone: For two-way hands-free communication | | | |
| | Headset and other Ports: Suitable Headset port with required convertor. <ul style="list-style-type: none"> • 1X RJ9 analog headset port • 1X 3.5 mm audio jack socket • 1X USB Type-A port | | | |
| | Distinctive Ring tone: Downloadable ring tones, Downloadable Wallpapers | | | |
| | Wireless Support - optional: should support wireless access point mode, 5GHz Wireless 802.11a/b/g/n/ac, Hotspot, Bluetooth 4.2 supporting | | | |
| | Support Android or OEM software, support install third party applications on OEM Store or Google Play™ store. The system administrator can restrict installation of certain applications | | | |
| | Warranty: 3 years onsite Warranty | | | |

| Technical Specification IP CCTV Surveillance System | | | | | |
|---|---|--|-----|------------------------|---------|
| # | A.5MP Vandal proof IR -30 M Dome Camera | | | | |
| | Make:- | | | | |
| | Model:- | | | | |
| Sl No | feature | Specification | Qty | Compliances Yes/ No | Remarks |
| | Camera | | 20 | | |
| 1 | Image Sensor | 1/2.8" CMOS sensor | | | |
| 2 | Min. Illumination | Color: 0.002Lux(F1.2,AGC ON) | | | |
| 3 | | B/W: 0.001Lux(F1.2,AGC ON); 0Lux with IR | | | |
| 4 | Shutter Time | 1s~1/100000s | | | |
| 5 | Lens | 2.8mm | | | |
| 6 | | Day& Night-(Dual IR Cut Filter with Auto Switch) | | | |
| 7 | | Support Super WDR120dB | | | |
| 8 | | 3D DNR, BLC,HLC,Smart Defog, Corridor Format,EIS,ROI-4 Zones,Privacy Mask,S/N ratio- >60db | | | |
| | Image | | | | |
| 9 | Max. Image Resolution | 2592x1944 | | | |
| 10 | Frame Rate | 2592*1944@18fps, 2560*1920@20fps, 2592*1520@25fps | | | |
| 11 | | <u>1440P@25fps, QXGA@30fps, 1080P@30fps, 960P@30fps, 720P@30fps, 640*360@30fps,4CIF@30fps, 2CIF@30fps</u> | | | |
| 12 | Triple Stream | Mainstream:2592x1944 | | | |
| 13 | | Substream:D1(704x576) | | | |
| 14 | | 3rd stream:CIF(352x288) | | | |
| 15 | ANR | Auto store video in SD card when NVR disconnected, and upload video to NVR when resumed connection | | | |
| 16 | Video Analytics | Tripwire,Double Tripwire, Perimeter, Object Abandon, Object Lost,Audio Abnormal Detection/Video Abnormal Detection | | | |
| 17 | Alarm Trigger | Motion Detection,IP Conflict,MAC Conflict,Port Alarm,Mask Alarm | | | |
| 18 | Protocols | TCP/IP, ICMP, HTTP, HTTPS, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, MULTICAST, UPnP, FTP, IPV4, NTP, SMTP, IGMP, 802.11x, QoS, IPV6, ARP, UDP, SNMP, SSL, SIP, Telnet, SNTp, RTMP, SFTP, NFS | | | |

| | | | | | |
|----|-------------------------|---|--|--|--|
| 19 | Video Compression | H.265+ or S+265/H.265 HP/MP/BP/M-JPEG | | | |
| | Video Bit Rate | 32Kbps~16Mbps | | | |
| 20 | User Permission | 4 Level/8 Users | | | |
| 21 | Remote Connection | 5 Users Access at the Same Time | | | |
| 22 | System Compatibility | ONVIF (Profile S), SDK, | | | |
| 23 | Communication Interface | 1-ch RJ45 10M / 100M Ethernet Interface | | | |
| 24 | Audio Input | 1-ch, Mic in | | | |
| 25 | On-board Storage | Micro SD Card Slot,512 Gb | | | |
| 26 | Operating Conditions | 0°~65°, 0~95% RH | | | |
| 27 | Power Supply | DC 12 V ± 10%, PoE (802.3af) | | | |
| 28 | Impact Protection | IP67, IK10, Lightning protection, surge protection and voltage transient protection | | | |
| 29 | IR Range | 30m | | | |
| 30 | Certificate | CE,FCC,BIS | | | |
| 31 | Warranty | 3 Years onsite Warranty | | | |

| # | b. 5MP Vandal proof IR -80 M Bullet Camera | | | | |
|-------|---|--|-----|---------------------|---------|
| | Make:- | | | | |
| | Model:- | | | | |
| Sl No | feature | Specification | Qty | Compliances Yes/ No | Remarks |
| 1 | Image Sensor | 1/2.8" CMOS | 15 | | |
| 2 | Signal System | PAL/NTSC | | | |
| 3 | Min. Illumination | Color: 0.002Lux@ (F1.6, ACG ON), B/W: 0Lux with IR | | | |
| 4 | Shutter Time | 1s to 1/100,000s | | | |
| 5 | Day & Night | Dual IR Cut Filter with Auto Switch | | | |
| 6 | Wide Dynamic Range | 120dB | | | |
| 7 | Angle Adjustment | Bracket, pan 0~360°, tilt 0~75°, rotate 0~360° | | | |
| | Lens | | | | |
| 8 | Lens Type | Motorized | | | |
| 9 | Focus | 2.7-13.5mm | | | |
| | Illuminator | | | | |

| | | | | | |
|----|-----------------------------|---|--|--|--|
| 11 | IR Range | 80m | | | |
| | Compression Standard | | | | |
| 12 | Video Compression | S+265/H.265/H.264 | | | |
| 13 | Video Bit Rate | 32Kbps~6Mbps | | | |
| 14 | Audio Compression | G.711/G.711U/ADPCM | | | |
| 14 | Audio Bit Rate | 8K~48Kbps | | | |
| | Image | | | | |
| 15 | Max. Resolution | 2592x1944 | | | |
| 16 | Main Stream | PAL: 20fps (2592×1944), 25fps (2592×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720) | | | |
| 17 | | NTSC: 20fps (2592×1944), 25fps (2592×1520, 2560×1440), 30fps (2304×1296, 1920×1080, 1280×720) | | | |
| 18 | Sub Stream | PAL: 25fps (704×576, 704×288, 640×360, 352×288) | | | |
| 19 | | NTSC: 30fps (704×480, 704×240, 640×360, 352×240) | | | |
| 20 | Image Setting | Saturation, brightness, contrast, sharpness, adjustable by client's software or web browser | | | |
| 21 | Image Enhancement | BLC/3D DNR/HLC | | | |
| 22 | OSD | 16×16, 32×32, 48×48, 64×64, adaptable size, Letters Such as Week, Date, Time, Total 3 Regions | | | |
| 23 | Privacy Mask | Yes, 4 regions | | | |
| 24 | Smart Defog | Yes | | | |
| | Feature | | | | |
| 25 | Alarm Trigger | Motion Detection, Mask Alarm, IP Address Conflict | | | |
| 26 | Video Analytics | Tripwire, Perimeter | | | |
| | Network | | | | |
| 27 | ANR | Yes, auto store video in SD card when NVR disconnected, and upload video to NVR when resumed connection | | | |
| 28 | Protocols | TCP/IP, HTTP, FTP, DHCP, DNS, DDNS, MULTICAST, IPV4, NTP, UDP, Telnet | | | |
| 29 | System Compatibility | ONVIF (PROFILE S/T/G), SDK, CGI (IE), | | | |
| | Interface | | | | |
| 30 | Communication Interface | 1 RJ45 10M/ 100M self adaptive Ethernet port | | | |
| 31 | Audio I/O | Mic in | | | |
| 32 | Reset Button | Yes | | | |

| | | | | | |
|-------|--|--|-----|---------------------|---------|
| 33 | On-board storage | Built-in MicroSD card slot, up to 512 GB | | | |
| | General | | | | |
| 34 | Operating Conditions | 0°~65°, 0~95% RH | | | |
| 35 | Power Supply | DC 12V±25%, PoE (802.3af) | | | |
| 36 | Power Consumption | MAX: 9W (12V) MAX: 10W (PoE) | | | |
| 37 | Protection | IP67, Lightning protection, surge protection and voltage transient protection | | | |
| 38 | Dimensions | 239×90×90mm (9.41×3.54×3.54inch) | | | |
| 39 | Weight | 0.9Kg (1.98lb) | | | |
| 40 | Certification | CE & FCC ,BIS | | | |
| 41 | Warranty | 3 years onsite warranty | | | |
| # | C.64CH Network video recorder with RAID | | | | |
| | Make:- | | | | |
| | Model:- | | | | |
| Sl no | feature | Specification | Qty | Compliances Yes/ No | Remarks |
| 1 | Input | | 1 | | |
| 2 | Video Input | 64-ch or Higher | | | |
| 3 | Max Resolution | 12MP | | | |
| 4 | Two-way Audio Input | 1-ch, 3.5mm | | | |
| 5 | Bandwidth | Income 320Mbps; Outgoing 320Mbps | | | |
| 6 | Output | | | | |
| 7 | HDMI/VGA Output | HDMI 2-ch, 3840×2160, 2560×1600, 2560×1440, 1920×1080, 1440×900, 1366×768, 1280×800,1280×720,1024×768, 800×600 | | | |
| 8 | | VGA 2-ch, 1920×1080, 1440×900, 1366×768, 1280×800, 1280×720, 1024×768, 800×600 | | | |
| 9 | Screen Split | 1/3/4/6/8/9/10/13/16/20A/20B/25/32/36/40/64 | | | |
| 10 | Audio Output | 1x3.5mm, 1xBNC | | | |
| | Decoding | | | | |
| 11 | Decoding Format | S+265H.265/H.264 | | | |
| 12 | Recording Resolution | 12MP/8MP/6MP/5MP/4MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF | | | |
| 13 | Preview Capability | 2×12MP, 4×8MP, 4×6MP, 5×5MP, 8×4MP, 9×3MP, 16×1080P, 32×720P, 64×4CIF | | | |

| | | | | | |
|----|---------------------------|--|--|--|--|
| 14 | Synchronous Playback | 2×12MP, 4×8MP, 4×6MP, 5×5MP, 8×4MP, 9×3MP, 16×1080P, 16×720P | | | |
| 15 | Records Encryption | Yes | | | |
| 16 | Hard Disk | | | | |
| 17 | SATA | 8 SATA interfaces for 8 HDDs | | | |
| 18 | Capacity | Up to 10TB for each HDD | | | |
| 19 | eSATA Interface | 1 SATA interface | | | |
| 20 | Array Type | JBOD, RAID0/1/5/6/10 | | | |
| | External Interface | | | | |
| 21 | Network Interface | 2xRJ45 self-adaptive 10/100/1000 Mbps network interfaces | | | |
| 22 | USB Interface | 2xUSB 2.0, 1xUSB 3.0 | | | |
| 23 | Alarm In/Out | 16/4 | | | |
| | Network | | | | |
| 24 | Protocol | TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, IGMP, QoS, IPV4, IPV6, Multicast, ARP, UDP, SNMP, SSL, Telnet, RTMP, NFS | | | |
| 25 | System Compatibility | ONVIF (PROFILE S/T), SDK, P2P | | | |
| | Features | | | | |
| 26 | VCA | Tripwire, Double Tripwire, Perimeter, Object Abandon, Object Lost, Loitering, Parking, Early Warning, Face Detection, Compatible with face recognition camera, crowd, On duty detection, Video abnormal, Audio Abnormal, Heatmap, Auto Tracking, Safety Helmet Detection | | | |
| 27 | ANR | Yes | | | |
| 28 | Hot Standby | N+M | | | |
| | General | | | | |
| 29 | Operating Conditions | 0°~65°, 0~95% RH | | | |
| 30 | Power Supply | AC100~240V, 50/60HZ | | | |
| 31 | Consumption (without HDD) | ≤100W (without HDD) | | | |
| 32 | Certification | BIS, CE & FCC | | | |
| 33 | warranty | 3 years onsite warranty | | | |

| | | | | | |
|---|--------------------------|--|--|--|--|
| # | Surveillances HDD | | | | |
| | Make:- | | | | |
| | Model:- | | | | |

| SL no | feature | Specification | Qty | Compliances Yes/ No | Remarks |
|-------|---------|---------------------------------|-----|---------------------|---------|
| 1 | HDD | 10TB surveillances HDD 7200 RPM | 4 | | |

| # | C.ANPR Camera with software licenses | | | | |
|-------|---|--|-----|---------------------|---------|
| | Make:- | | | | |
| | Model:- | | | | |
| SL no | feature | Specification | Qty | Compliances Yes/ No | Remarks |
| 1 | Camera | | 2 | | |
| 2 | Image Sensor | 1/2.8" Progressive Scan CMOS | | | |
| 3 | Min. Illumination | Color: 0.002Lux @F1.2, | | | |
| 4 | WDR | 140dB Super WDR | | | |
| 5 | Shutter Time | 1/100000s~1s | | | |
| 6 | Day/Night Mode | Day/Night/Auto/Customize/Schedule | | | |
| 7 | IR Distance | Up to 80m | | | |
| 8 | Lens | 5.3~64mm, 12X Optical Zoom | | | |
| 9 | Max. Image Resolution | 1920x1080, 60fps required must or higher | | | |
| 10 | Video Compression | H.265+/H.265(HEVC)/H.264 | | | |
| 11 | Ethernet | 1*RJ45 10M/100M Ethernet Port | | | |
| 12 | Network Protocols | IPv4/IPv6, ARP, TCP, UDP, RTCP, RTP, RTSP, RTMP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP, UPnP, Bonjour, SIP, SNMP, PPPoE, VLAN, 802.1x, QoS, IGMP, ICMP, SSL | | | |
| 13 | Audio Compression | G.711/AAC/G.722/G.726 | | | |
| 14 | Audio Sampling | Rate8/16/32/44.1/48KHz | | | |
| 15 | Video Analysis | Region Entrance, Region Exiting, Advanced Motion Detection, Tamper Detection, Line Crossing, Object Left, Object Removed, IP Address Filtering | | | |
| 16 | Advanced Function | BLC, HLC, 3D DNR, Defog, | | | |
| 17 | Event Trigger | Motion Detection, Network Disconnection, External Input, Audio Alarm, etc. | | | |
| 18 | Event Action | FTP Upload, SMTP Upload, SD Card Record, External Output, SIP Phone, HTTP Notification, etc. | | | |

| | | | | | |
|----|---|--|--|--|--|
| 19 | System Compatibility | ONVIF (Profile S), SDK | | | |
| 20 | Working Temperature | 0 degree to 60 | | | |
| 21 | Weather Proof | Up to IP67-rated for Weather-resistant Performance | | | |
| 22 | Certificate | CE, FCC & BIS | | | |
| 23 | Warranty | 3 years onsite Warranty | | | |
| | ANPR Software | | | | |
| | The ANPR System shall automatically detect the license plate in the captured video feed in real-time. | | | | |
| | The ANPR system shall be based on Artificial Intelligence which uses deep learning for very high accuracy. | | | | |
| | The ANPR system shall be capable of generating meta data related to the license plate such as plate location in terms of co-ordinates, plate type, country, and color. | | | | |
| | The ANPR system shall be able to read plates with a minimum width of 60 pixels (for plates with 1 row) and 40 pixels (for plates with 2 rows) | | | | |
| | The ANPR system shall support minimum character height of 10 pixels and maximum camera angles of 45 degrees Elevation and 45 degrees Azimuth | | | | |
| | The ANPR system shall support an accuracy of 95% or above for recognition for unambiguously readable standard number plates | | | | |
| | The ANPR system shall works under difficult conditions like uneven lighting, partial shadows, dirt, and glare as long as the numbers are readable by humans without ambiguity. | | | | |
| | The ANPR system shall be able to work well up to a speed of 70 kmph as the camera frame rate is above 60 fps and the picture taken from the camera is without motion blur | | | | |
| | The ANPR System shall support recognition of number plates of Indian stranded. | | | | |
| | The ANPR system shall be able to run with other traffic violation detection features like Illegal Parking, Wrong way detection. Using ANPR, it should be possible to automatically recognize the registration number of a vehicle involved in the traffic violation | | | | |
| | The ANPR System shall have a License Plate Database and will have an option to input certain license plates according to category like "Blacklist", "Whitelist", "Stolen", and "Expired" etc. by authorized personnel. | | | | |
| | India:- <ul style="list-style-type: none"> • Plate formats with 1-row, 2-row and 3-rows shall be supported • Shall work for a wide variety of fonts including hand painted ones | | | | |

| | | | | |
|--|---|--|--|--|
| | The ANPR engine should be capable to support any new plate type of new states/countries when required in quick turnaround | | | |
| | The ANPR System shall be able to store and display the image of the number plate and the image of the vehicle | | | |
| | The ANPR system should detect the class of the vehicle (Eg: Private, Taxi, Police, Diplomatic etc) | | | |
| | The ANPR system should be capable Integrate with 3rd party Access control systems. | | | |
| | Core i7 12GB RAM 1TB HDD SSD Windows OS workstation | | | |

Technical Specification for 55 Inch LED Display:

| Sl No | Features | Specification | Qty | Compliance Yes/No | Remarks |
|-------|-----------------------|--|----------|-------------------|---------|
| 1 | Diagonal Size | 55" | 1 | | |
| 2 | Panel Type | 60Hz E-LED BLU | | | |
| 3 | Resolution | 3840*2160 (4K UHD) | | | |
| 4 | Brightness | 250 nit | | | |
| 5 | Native Contrast Ratio | 4700:1 or Better | | | |
| 6 | Viewing Angle(H/V) | 178:178 | | | |
| 7 | Response Time | 8ms | | | |
| 8 | Display Colors | 16.7 M | | | |
| 9 | Color Gamut | 92% | | | |
| 10 | Dynamic C/R | 500000:1 or Better | | | |
| 11 | Audio | Built in Speaker(10W + 10W) | | | |
| 12 | Input Type | HDMI x 3 | | | |
| | | HDCP 1.4 / 2.2 | | | |
| | | USB (1) | | | |
| 13 | Output Type | Optical | | | |
| 14 | Duty Cycle | 16/7 | | | |
| 15 | Special features | Adaptive Sound, Instant On, Game Mode, Mobile to TV - Mirroring, DLNA, Remote Access, Easy Setup-No, Wired TV On - Samsung WOL, WiFi Direct, TV Sound to Mobile, , iOS),On/Off timer, Autorun Signage(App auto launch),App pre-installation, OTN On/Off ,Panel button lock, Usb port lock, Mobile Connection menu lock | | | |
| 16 | File Support | Direct viewing of Images and Video from pen drive | | | |
| 17 | External Control | RJ45, WiFi 5, Bluetooth supported | | | |
| 18 | Power Consumption | 145 W/H OR LESS | | | |
| 19 | Standby Mode Power | less than 0.5W | | | |
| 20 | Vesa Mount | 200*200mm | | | |
| 21 | Operating Temperature | 0 °C ~ 40 °C | | | |
| 22 | Humidity | 10 % ~ 80.0 % | | | |
| 23 | Safety | CE, UL & BIS | | | |
| | | EMC-Class B | | | |
| 24 | Warranty | 3 years onsite Warranty | | | |

| # | Technical Specification for Display Unit 85 Inch or above | | | | |
|--------|--|--|-----|-------------------|---------|
| Sl No. | Item | Specification | Qty | Compliance Yes/No | Remarks |
| 1 | Diagonal Size | 85 Inch or above | 3 | | |
| 2 | Resolution | 3840*2160(UHD) | | | |
| 3 | Brightness (Typ.) | 500 Nits or Better | | | |
| 4 | Static Contrast Ratio (Typ) | 4000:1 or Better | | | |
| 5 | Pixel Pitch (mm) | 0.4875 x 0.4875 or Better | | | |
| 6 | Color Gamut | 92% (DCI-P3, CIE 1976) | | | |
| 7 | Operational Hour | 24*7 or better | | | |
| 8 | Connectivity Input | DP 1.2 (1), HDMI 2.0 (2),HDCP2.2,USB 2.0 x 2 | | | |
| 9 | External Control | RS232C(in/out) , RJ45 | | | |
| 10 | Orientation | Landscape / Portrait | | | |
| 11 | In built Storage and Processor | 8 GB & Cortex A72 1.7GHz Quad-Core CPU | | | |
| 12 | Power Supply | AC 100 - 240 V~ (+/- 10 %), 50/60 Hz | | | |
| 13 | In built Speaker | 10W+10W | | | |
| 14 | IP5X Rating | Display must IP5X rating | | | |
| 15 | Power consumption (Typ) | 250 or less | | | |
| 16 | In built Operating System | Tizen/ Android | | | |
| 17 | Certification | UL,CE,BIS,IP5X | | | |
| 18 | Warranty | 3 years Onsite Warranty | | | |
| 19 | OEM MAF | Bid Specific OEM MAF | | | |

| Technical Specification for USB Based Audio and Video Conferencing System (Conference Room -1 , Room Size : L-38 Ft.X W-20 , Table Capacity: 15 Microphone-Warranty: 3 Years Onsite | | | | |
|--|--|-----|-------------------|---------|
| Sl No. | Specification | Qty | Compliance Yes/No | Remarks |
| 1 | Studio auto-framing 4k USB camera w/dual lens, multi-mic array. Digital pan, tilt, zoom. Power via PoE IEEE 802.3af. Cables: 5m USB A-C, 4.6m LAN. Wall mt brkt. | 1 | | |

| | | | | |
|----|--|-----|--|--|
| 2 | SUPPLY of pre-polarized condenser gooseneck microphone with overall length of 450mm or better, with XLR3M-type connector, shall offer radio frequency interference (RFI) shielding against intermodulation from wireless equipment or devices, cardioid microphone capsule with uniform 120° angle of acceptance (-3dB) or better, frequency response of 50 Hz to 20,000 Hz or better and sound input levels handling capability of minimum 130 dBspl or better, nominal equivalent noise level of 26 Dba or better and output shall be low impedance balanced (<100 ohms) with current consumption shall be 3 mA or better. | 15 | | |
| 3 | SUPPLY of table stand with Microphone modes Toggle on / off, Push to mute, Push to talk, permanent on for connecting and operating XLR gooseneck microphones with XLR-3F microphone input and an XLR-3M microphone output operating on 48 V phantom power and current consumption of 3.7 mA or better. | 15 | | |
| 4 | Supply of DSP core with 64x64 Dante on a dual NIC, scripting engine and DSP with onboard 4x4 Dante™ audio networking, PoE power scripting engine, 10XI/O card (or inbuilt equivalent) with dual-channel microphone or line level input, switchable 48V Phantom power, software-controlled functionality. 4XI/O card (or inbuilt equivalent) with dual-channel line level output, software-controlled functionality. I/O card with 2x2 USB 2.0 input/output, HID command-capable for UC status sync. Software-licensed Acoustic Echo Cancellation (AEC) (for all microphones quoted) Eight channel at 250ms, 16 channel at 100ms delay. | 1 | | |
| 5 | SUPPLY of Quad Channel Energy Star Rated Class D Amplifier , 4 X 100W @ 4Ω, 4 X 50W @ 8Ω, 2 X 200W @ 8Ω Bridge, Active Crossover , Protection Circuit : DC, Overheating, Overload, Signal limiting, XLR Line Inputs , 2-Pin Terminal Outputs , 1U 19" Rack mountable. | 1 | | |
| 6 | Column speaker 4 x 2" | 2 | | |
| 7 | Supply of Two-way Coaxial In-ceiling Loudspeaker with 5.25" LF paper cone material & 1" HF Driver with Power handling 30W @ 8 Ohms & 100V Multi Taps 24W / 12W / 6W ; Frequency range 45Hz – 20Khz or better; Sensitivity (1W/1M) 87 dB or better and max SPL 100 dB or better; Conical dispersion of 140° or better . Edgeless Grill & Mounting. The enclosure material ABS plastic and steel grill. | 6 | | |
| 8 | Equipment Rack with additional PDU and shelf | 1 | | |
| 9 | Audio Mic. Cable | 150 | | |
| 10 | Speaker cable | 50 | | |

| # | USB Based Audio and Video Conferencing System (Conference Room-2, Room Size : L-40 Ft.X W-20 , Table Capacity: 11 Microphone-Warranty: 3 Years onsite | | | |
|---|--|----|--|--|
| 1 | Studio auto-framing 4k USB camera w/dual lens, multi-mic array. Digital pan, tilt, zoom. Power via PoE IEEE 802.3af. Cables: 5m USB A-C, 4.6m LAN. Wall mt brkt. | 1 | | |
| 2 | SUPPLY of pre-polarized condenser gooseneck microphone with overall length of 450mm or better, with XLR3M-type connector, shall offer radio frequency interference (RFI) shielding against intermodulation from wireless equipment or devices, cardioid microphone capsule with uniform 120° angle of acceptance (-3dB) or better, frequency response of 50 Hz to 20,000 Hz or better and sound input levels handling capability of minimum 130 dBspl or better, nominal equivalent noise level of 26 Dba or better and output shall be low impedance balanced (<100 ohms) with current consumption shall be 3 mA or better. | 11 | | |
| 3 | SUPPLY of table stand with Microphone modes Toggle on / off, Push to mute, Push to talk, permanent on for connecting and operating XLR gooseneck microphones with XLR-3F microphone input and an XLR-3M microphone output operating on 48 V phantom power and current consumption of 3.7 mA or better. | 11 | | |
| 4 | Supply of DSP core with 64x64 Dante on a dual NIC, scripting engine 8XI/O card (or inbuilt equivalent) with dual-channel microphone or line level input, switchable 48V Phantom power, software-controlled functionality. 4XI/O card (or inbuilt equivalent) with dual-channel line level output, software-controlled functionality. I/O card with 2x2 USB 2.0 input/output, HID command-capable for UC status sync. Software-licensed Acoustic Echo Cancellation (AEC) (for all microphones quoted) Eight channel at 250ms, 16 channel at 100ms delay. | 1 | | |
| 5 | SUPPLY of Quad Channel Energy Star Rated Class D Amplifier , 4 X 100W @ 4Ω, 4 X 50W @ 8Ω, 2 X 200W @ 8Ω Bridge, Active Crossover , Protection Circuit : DC, Overheating, Overload, Signal limiting, XLR Line Inputs , 2-Pin Terminal Outputs , 1U 19" Rack mountable. | 1 | | |
| 6 | Column speaker 4 x 2" | 2 | | |
| 7 | Supply of Two-way Coaxial In-ceiling Loudspeaker with 5.25" LF paper cone material & 1" HF Driver with Power handling 30W @ 8 Ohms & 100V Multi Taps 24W / 12W / 6W ; Frequency range 45Hz – 20Khz or better; Sensitivity (1W/1M) 87 dB or better and max SPL 100 dB or better; Conical dispersion of 140° or better . Edgeless Grill & | 6 | | |

| | | | | |
|----|---|-----|--|--|
| | Mounting. The enclosure material ABS plastic and steel grill. | | | |
| 8 | Equipment Rack with additional PDU and shelf | 1 | | |
| 9 | Audio Mic. Cable | 120 | | |
| 10 | Speaker cable | 50 | | |

SECTION - V:

BID SCHEDULES AND FORMS

Technical Compliance Sheet

Bidders need to submit the Technical Compliance Sheet or Deviations (if any) as per the Technical Specification mentioned in Schedule-I.

| Sl. No. | ITEM DESCRIPTION | Compliance (Yes/No) | Deviations if any |
|---------|---|---------------------|-------------------|
| 1. | PACKAGE - B (Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference, display for conference Hall) of OPTCL Tech Tower building | | |

Signature with Date

Name in Block Letters

Seal of the Company

Note: In case of any deviations, specific comments are to be filled in the deviation column. If the space is insufficient, a separate sheet may be enclosed.

SCHEDULE-B

BID FORM

To

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

Sir/ Madam

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 "**PACKAGE – B** (Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference, display for conference Hall) of OPTCL Tech Tower building" in conformity with the said Bidding Documents 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 percent) of the Contract Price for the due performance of the Contract, in the B.G. Form prescribed by the Purchaser. We agree to abide by **this bid for a period of 180 days** from the date fixed for bid opening under Section: II "**General Instruction to Bidders**", and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

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

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

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

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

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

(IN BLOCK LETTERS) with Seal

MANUFACTURER'S AUTHORISATION FORM

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

To

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

Date:

NIT Ref No.:

RFP No.:

Dear Sir,

We [***name of the Manufacturer***] who are established and reputable manufacturers of [***name and/or description of the goods***] having factories at [***address of factory***] do hereby authorize [***name and address of Agent***] to submit a bid, and subsequently negotiate and sign the Contract with you for the goods manufactured by us against the above IFB.

We hereby extend our full warranty as per Clause no 20 & clause no. 21 of the General Conditions of Contract for the goods and services offered for supply by the above firm against this Invitation for Bids (IFB). We hereby confirmed that goods offered for supply by the above firm shall not be outdated within 5(five) years of supply and will provide necessary spares support service.

[Signature for and on behalf of Manufacturer] [Name]

[Name of the Manufacturer]

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

BIDDER'S INFORMATION

SCHEDULE-D

1.0 General Information

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

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

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

| Nationality of owners | | |
|-----------------------|------|-------------|
| | Name | Nationality |
| 1. | | |
| 2. | | |
| 3. | | |

2.0 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 | |
| 4. | Type of equipment manufactured and supplied during last three years. | |
| | Name of equipment | Capacity/Size |
| | | Nos. manufactured |
| | | Nos. of orders on hand |
| 5. | Details of Organization at Service Centre a) No. of skilled employees: b) No. of Unskilled employees: c) No. of Engineering employees d) No. of Administrative employees e) List of special repair/workshop facilities available f) Storage space for spare parts (sq.m.) g) Value of minimum stock of spares available at all the service centres in respective currency h) Value of the modes/types by number of equipment serviced by the centre in last two years | |
| 6. | Names of three buyers to whom similar equipment was supplied in the past and to whom | |
| | (1) | |
| | (2) | |
| | (3) | |

3.0 Banker Information

| |
|-----------------|
| 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.

| | |
|--|--|
| 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.

4.0 Litigation History

| |
|----------------|
| Name of Bidder |
|----------------|

| Bidders should provide information on any history | Award FOR or AGAINST Applicant | Name of client, cause of litigation and matter in dispute | Disputed amount (Current Value in Indian Rupees) |
|---|--------------------------------|---|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

DEVIATIONS ANDALTERNATIVES

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

Any proposal in this section will be applicable only for the bidders whose Bid will be substantially responsive in accordance with **“Instructions to Bidders”**.

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

1. Reference Clause in the bid document.
2. Detailed description of the alternative or deviation.
3. Reason for the change.
4. The change in bid price if the alternative or deviation is withdrawn and the bidder conforms to the specifications.

Date: (Signature).....

Place: (PrintedName).....

(Designation).....

(Common Seal).....

SCHEDULE -F

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:

(Signature).....

Place:

(PrintedName).....

(Designation).....

(Common Seal).....

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

PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE (CPBG)

(To be stamped in accordance with Stamp Act and the Non-Judicial stamp paper of appropriate value should be in the name of the Issuing Bank.)

Ref No:

Bank Guarantee No.

Date:

BG Amount:

Validity Period:

This Guarantee Bond is executed this..... day of by us the..... Bank at , P.O..... , Dist....., State..... and Code No.....

Whereas the ODISHA POWER TRANSMISSION CORPORATION LIMITED, Janpath, Bhubaneswar, a company constituted under the Companies Act-1956 (hereinafter called OPTCL) has issued Letter of Award (LOA) No..... Dated..... for the purpose of work under Package No..... (Herein after called “the Agreement”) to M/s. / Sri. , Address..... (herein after called the “Contractor”) for Supply, Installation Commissioning of the **PACKAGE – B** (Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference, display for conference Hall) of OPTCL Tech Tower building) under the above LoA and whereas OPTCL has agreed (1) to exempt demand of security deposit under the terms and conditions of the LOA (2) to release payment of the cost of the Contract Price to the Contractor on furnishing by the Contractor to OPTCL a Contract Performance Bank Guarantee (CPBG) of the value of 10% of the Contract Price of the said Agreement.

1. Now therefore, in accordance with the terms and conditions of LOA No. _____ dated _____ for the due fulfillment by the said Contractor of the terms and conditions contained in the said agreement, on production of a Bank Guarantee for Rs. _____ (Rupees _____) only, we the bank _____ [Indicate bank Name , Address & Code] (hereinafter referred to as “the Bank”) at the request of M/s. / Sri. _____ Contractor do hereby undertake to pay to OPTCL, an amount not exceeding Rs. _____ (Rupees _____) only.

2. We, the _____ Bank [indicate the name of the Bank, Address & Code] do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from OPTCL. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees----- in Words).

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

4. We, the _____ Bank further agree that the guarantee herein contained shall remain in full force and effect during the aforesaid period of _____ days and it shall continue to be so enforceable till all the dues of OPTCL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till OPTCL certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor and accordingly discharges this guarantee.

Unless a demand or claim under this guarantee is made on us or our Branch Office at Bhubaneswar <Mention Name, Address & Code of the Branch Office at Bhubaneswar of issuing Bank> in writing on or before (Date), we shall be discharged from all liability under this guarantee thereafter.

5. We, the _____ Bank [indicate the name of the Bank, Address & Code] further agree with the Board that OPTCL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Bid or to extend time or performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by OPTCL against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Bid and we shall not be relieved from our liability by reason of any such variation postponement or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of OPTCL or any indulgence by OPTCL to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of so relieving us.

6. This guarantee will not be discharged due to the change in the name, style or constitution of the Bank and/or of the contractor(s).

7. We, the _____ Bank [indicate the name of the bank, Address & Code] lastly undertake not to revoke this guarantee during its currency except with the previous consent of OPTCL in writing.

8. We, the _____ Bank (Name, Address & Code) further agree that this guarantee shall also be invocable at our place of business at **Bhubaneswar** (indicate Name, Address & Code of the Branch at Bhubaneswar) in the State of Odisha.

“Notwithstanding anything contained herein”

a) Our liability under the bank guarantee shall not exceed Rs. ----- (Rupees in words-----) only.

b) This Bank guarantee shall be valid up to -----.

c) We or our Branch at **Bhubaneswar**<Mention Name, Address & Code.....> shall be liable to pay guaranteed amount or any part thereof under this guarantee only if you serve upon us at-----
- Branch of Bhubaneswar a written claim or demand on or before,

The Bank Guarantee is issued in paper form and Advice transmitted through SFMS with required details to the beneficiary's advising bank (**ICICI Bank Bhubaneswar**, IFSC Code ICIC0000061).

Dated, the _____ Day of _____

For _____ [Indicate name of Bank]

Signature.....
Full Name.....
Designation.....
Power Of Attorney.....
Dated.....
Seal of the Bank.....

WITNESS: (SIGNATURE WITH NAME AND ADDRESS)

1. Signature.....

Full Name.....

2. Signature.....

Full Name.....

N.B.:

1. Name of the Contractor:
2. BG No & Date:
3. Amount (In Rs.):
4. Validity up to:
5. LOA No.....
6. Package No.....
7. Name, Address & Code of Issuing Bank:
8. Name, Address & Code of Bhubaneswar Branch of the Issuing Bank:

SCHEDULE-H

(Reverse Action process Compliance forms)

(To be incorporated in the bid document)

(To be submitted on letter head of the bidding company with sign and stamp and along with Technical bid)

To,

-----, OPTCL

-----,

-----, Odisha

Sub: Agreement to the process related Terms & Conditions for e-Reverse Auction

Dear Sir,

This letter is to confirm that:

- The undersigned is authorized representative of the company
- We have studied the commercial Terms and the business rules governing the Reverse Auction as mentioned in your tender and confirm our agreement to that.
- We also confirm that we have gone through the auction manual and have understood the functionality of the same thoroughly.
- We hereby, confirm that we will honour the Bids placed by us during the tendering/e-Reverse auction process as called as e-RA
- We also confirm that we will accept our Rank / Position that will be displayed when the Bidding Time for the Online Reverse Auction is over.

With regards,

Signature with Designation with company seal Name & Address

Person having power of attorney for the subject package.

SCHEDULE-I

| ODISHA POWER TRANSMISSION CORPORATION LIMITED | | |
|---|--|---|
| Acceptance of Important Terms & Conditions – Schedule J | | |
| Tender Notice No. | | TW-IT-OT/06/2022-23 |
| Tender Specification No. | | |
| NAME OF THE WORK | | PACKAGE – B (Data Networking Equipment, IP Inter-Cum System, IP CCTV Surveillance System and Video Conference, display for conference Hall) of OPTCL Tech Tower building |
| NAME OF THE BIDDER | | |
| SL NO | DESCRIPTION | TO BE FILLED BY THE BIDDER (CHOOSE OPTION) YES/NO |
| 1 | Whether the bidder agrees to all the general terms & conditions of the contract for this tender? | |
| 2 | Documentary proof of Registration with Tender Wizard | |
| 3 | Whether submitted the tender processing fee on or before date and time of opening of technical bid? | |
| 4 | Whether the tenderer has submitted the bid in electronic mode only? | |
| 5 | EMD | |
| 6 | Whether validity of the bid mentioned for a minimum period of 180 days from the date of opening of tender? | |
| 7 | Whether the tender has been submitted in two parts as specified? | |
| 8 | Whether the schedule of prices have been filled up fully. Incomplete submission of this schedule will make the tender liable for rejection. | |
| 9 | Whether the tenderer has quoted ' FIRM ' price only. | |
| 10 | Please confirm you agree to all clauses specified the bid document | |
| 11 | Please confirm submission of tender using all Forms and Documents as per tender | |
| 12 | Technical proposal along with all Forms & Supporting documents. | |
| 13 | Please confirm submission of price proposal | |
| 14 | Please confirm you would submit the bank guarantee as per Clause-26 | |
| 15 | Please confirm that all services have been included in the price proposal and is complete in all respects without any deviation/missing items. | |
| 16 | Please confirm that you have not submitted alternate proposal | |
| 17 | Please confirm you have responded to all the functional specification, technical specification and scope of work. | |

Reverse Auction Process Compliance

(To be incorporated in the bid document).

(To be submitted on letter head of the bidding company with sign and stamp and along with Technical bid)

To,

Chief General Manager (IT),
Odisha Power Transmission Corporation Limited.
Janpath, Bhubaneswar-751022, Odisha.

Sub: Agreement to the Process related Terms & Conditions for e-Reverse Auction.

Dear Sir,

This letter is to confirm that:

- The undersigned is authorized representative of the company.
- We have studied the Commercial Terms and the Business rules governing the Reverse Auction as mentioned in your tender and confirm our agreement to that.
- We also confirm that we have gone through the auction manual and have understood the functionality of the same thoroughly.
- We, hereby, confirm that we will honour the Bids placed by us during the tendering/ e-Reverse auction process as called as e-RA.
- We also confirm that we will accept our Rank / Position that will be displayed when the Bidding Time for the Online Reverse Auction is over.

With regards,

Signature with Designation with company seal Name & Address

Person having power of attorney for the subject package.

MSME: In cases of Odisha based micro, small enterprises, and Start-up enterprises while procuring goods through tender process, the following concessions shall be allowed as below;

- i) Tender paper shall be provided free of cost if they are registered with respective DICs, Khadi, Village, Cottage & Handicrafts Industries, OSIC or NSIC for respective items.
- i) They will be allowed 50% exemption on payment of Earnest Money Deposit (EMD).
- iii) The Contract Performance Bank Guarantee (CPBG) shall be furnished @ 5% of the awarded amount.