



THE WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED
(A Govt. of West Bengal Enterprise)
Bakreswar Thermal Power Project
P.O.Bk.T.P.P , Dist -Birbhum,Pin -731104

NIT No.: WBPDC/Tend-Adv/CC/15-16/51/BkTPP Date:16.05.2015

SUB: Tender document for Procurement, Installation & Commissioning of 12 Nos. CC TV Camera at different area of Bakreswar Thermal Power Project.

SALE OF TENDER PAPER : **25/05/2015 to 12/06/2015 from 10:00 Hrs. to 14:00 Hrs.** on all working days except Sundays and holidays and Saturday from 10:00 Hrs. to 12:00 Hrs. against deposition of Cost of Tender Document at Cash Section of Bk.TPP.

PRE-BID DISCUSSION ON : **On 18/06/2015 at 11:00 Hrs.**

LAST DATE & TIME OF SUBMISSION OF TENDER PAPER : **02/07/2015 upto 14:30 Hrs.**

DATE & TIME OF OPENING (PART-A FOR TECHNICAL BID ALONGWITH COMMERCIAL TERMS & CONDITIONS) : **02/07/2015 at 15:00 Hrs.**

COST OF TENDER PAPER : Rs. 1000/- (Rupees one thousand only)

DEPOSITED VIDE D.C.R.NO. _____

DATED _____

ISSUED TO M/s. _____

SR. MANAGER (Materials)
BAKRESWAR THERMAL POWER PROJECT
W. B. P. D. C. L.



THE WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED
(A Govt. of West Bengal Enterprise)
Bakreswar Thermal Power Project
P.O.Bk.T.P.P , Dist -Birbhum, Pin -731104

NIT No.: WBPDC/ Tend-Adv/CC/15-16/51/BkTPP

Date:16.05.2015

Sealed tender in two parts, Part A (for technical specification bid alongwith commercial Terms & Conditions) and Part B (for price bid) in duplicate are invited by the General Manager, Bakreswar Thermal Power Project under The West Bengal Power Development Corporation Limited from interested, resourceful and experienced agencies.

The agencies should submit the following documents in their quotation while submitting the offer:

1. Valid I.T. & S.T., Service Tax Registration, Professional Tax Clearance Certificates, Provident Fund A/c. No. etc.
2. Credential of similar work done directly under a Government/Quasi Government Organization/Private Company during period of any three year within last seven years reckoning **from 30.04.2015**
 - “Similar Works” means ‘Supply, Installation & Commissioning of 12 nos. CC TV Camera at different area’ with the specifications detailed elsewhere in the Tender Document.
 - The value of work for similar type of job as mentioned above, completed by agency should be as follows:
 - a) In single order of value not less than Rs. 24 lakhs.
or
 - b) In two orders each of value not less than Rs. 15 lakhs.
or
 - c) In three orders each of value not less than Rs. 12 lakhs.
3. Average Annual Financial Turnover in last 3 financial years, (viz. 2011-12, 2012-13 & 2013-14) should be at least Rs. 9 lakhs.
4. Average net worth in last three financial years:- should be positive.
5. Audited balance sheet for last three financial years.

Job Description:

Procurement, Installation & Commissioning of 12 Nos. CC TV Camera at different area of Bakreswar Thermal Power Project:

Completion time

Material Delivery Schedule: - Ninety (90) days from the date of the order. Delivery is to be effected at BkTPP Store. Unloading will be done by WBPDC.

Earnest Money Deposit/Bank Guarantee

Rs. 60,000/- (Rupees eighty thousand only) in the form of Demand Draft or Bank Guarantee in favour of “THE WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED” drawn on /issued by any Nationalised /Scheduled Bank, Suri or United Bank of India, BkTPP Branch. The requisite earnest money should be deposited along with tender papers in a separate sealed envelope. No tender will be entertained without Earnest Money.

NSIC holders are exempted from deposition of EMD. Necessary enlistment certificate should be submitted by the respective bidder.

Cost of Tender Paper

Rs. 1000/- (Rupees one thousand only) in cash only (non refundable)

Sale of Tender Paper

25/05/2015 to 12/06/2015 from 10:00 Hrs. to 14:00 Hrs. on all working days except Sundays and holidays and Saturday from 10:00 Hrs. to 12:00 Hrs. against deposition of Cost of Tender Document at Cash Section of BkTPP.

Pre-bid Discussion

On 18/06/2015 at 11:00 Hrs. at the Administrative Building of BkTPP. Bidders are requested to submit their queries before the Pre-bid discussion.

Last Date of Submission of Tender Papers:

Last date of submission of Tender Paper is 02/07/2015 upto 14:30 Hrs. and the same will be opened (Part-A) at 15:00 Hrs. on the same date in presence of the participating tenderers if any. Sealed tenders of the parties only who have deposited the requisite amount of Earnest Money will be opened for two part bid.

The Corporation reserves the right to accept / cancel any or all tenders or to split the work without assigning any reason whatsoever. The WBPDCCL does not bind itself to accept the lowest tender and qualification of tenderer will be adjudged as per sole discretion of WBPDCCL authority. The validity of tender will remain effective for 6 (six) months from the date of opening of Price Bid of tender. All other details are available in the tender document.

Encl:

- Information to Bidders
- Annexure – I, II & III

(K. Sarkar)
Sr. Manager (Materials)
BkTPP/WBPDCCL



THE WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED
(A Govt. of West Bengal Enterprise)
Bakreswar Thermal Power Project.
P.O. Bk.T.P.P, Dist-Bibhum. Pin-731 104

NIT No.: WBPDC/Tend-Adv/CC/15-16/51/BkTPP

Date:16.05.2015

INFORMATION TO BIDDERS

Sub :	Tender document for Procurement, Installation & Commissioning of 12 Nos. CC TV Camera at different area of Bakreswar Thermal Power Project:
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1.00.00. INTENT OF SPECIFICATION

This proposal is for procurement, Installation & Commissioning of 12 nos. CC TV Camera at different area of Bk.TPP.

This specification is intended to cover the following activities in respect of above mentioned procurement with all components and accessories to be supplied to Central Store, BkTPP, WBPDC located in Birbhum district of West Bengal.

- a. Detailed design of the equipment and accessories.
- b. Providing Rating & Diagram Plate, Outline General Arrangement (OGA), Guaranteed Technical Particulars (GTP) & Quality Assurance (QA) Plan.
- c. Drawings, Data sheet, Format etc. for Owner's approval and records.
- d. Packing and transportation from the manufacturer's works to the site, including custom/port clearance, if required.
- e. Receipt, unloading, handling, storage and insurance of equipment.
- f. Reconciliation with customs authorities, if applicable.

2.00.00. GENERAL INSTRUCTION TO BIDDER:

2.1. CCTV system is required to ensure effective monitoring of an area as well as create a tamperproof record for post event analysis. The System shall provide an online display of video images on LCD/LED/TV monitors located in control rooms.

2.2. System should facilitate viewing of live and recorded images and controlling of all cameras by the authorized users present in the LAN.

2.3. System should provide inter-operability of hardware, OS, software, networking, printing, database connectivity, reporting, and communication protocols. System expansion should be possible through off-the-shelf available hardware.

2.4. Equipment with better specifications shall be accepted.

2.5 This project will be an extension of our existing IP Base CCTV System & it will integrate with our existing system.

OEM of Cameras, Servers, Raid backup device, Monitors, and Switches shall be ISO firms & the offered products must be CE certified.

3.00.00 INSTALLATION AND COMMISSIONING:

The total system has to be installed, commissioned and integrated at site (i.e. Bk.TPP) up to satisfaction of the Bk.TPP TECIT department. Fiber optic cable laying, splicing and jointing at the different LIUs however are excluded in the vendor's scope.

4.00.00. CAMERA HOUSING & MOUNT:

The camera mount should be:

- a) Of the same make as that of camera and suitable for the model number offered as specified by the manufacturer and should be an integrated unit.
- b) Should support the weight of camera and accessories such as housing, pan & tilt head in any vertical or horizontal position etc.

5.00.00. DESCRIPTION OF THE JOB:

General Specification for work:

- 1) Supply of all the materials, required to complete the job in all respect.
- 2) Laying & termination of power cable & UTP cable from camera to enclosure with proper marking (Excluding OFC & Main power cable laying).
- 3) Camera assembling & configuration will be done by vendor at BkTPP.
- 4) Camera Mounting on the roof top or lighting tower (approx 30 Mtr. high) and necessary clamp/shuttle will be supplied by the vendor.
- 5) Installation, commissioning & configuration of Server, OS. Video Recording Manager, necessary for CCTV system.
- 6) Installation, commissioning and integration of the whole system with Server/Switch and requisite software for viewing and controlling of the CCTV system as a whole.
- 7) Integration of the whole system with existing IP base, Pelco make CCTV system

Proper detailed Technical Documentation for all the components as well as software, installation details and operating principles has to be provided by the vendor

6.00.00. SCOPE OF WORK (WBPDCD Scope):

1. The necessary information related to locations for the cameras and also the Server/ Network Switch and LIU of CCTV will be provided by M/s WBPDCD.
2. Bk.TPP will provide 230 V AC Raw Power Supply at a suitable point near camera enclosures.
3. Bk.TPP will provide OFC or UTP cable network at camera enclosures.
4. All the cable laying jobs (Fiber Optic and Main AC Power) will be under WBPDCD scope. But Necessary cable laying from enclosure to camera are however under vendors scope.

7.00.00. LOCATION:

Different area of Bk.TPP, including Plant & Township area, as decided by the Bk.TPP authority.

8.00.00. SITE VISIT:

The bidder is advised to visit & go through the technical details of the existing IP base CCTV system at Bk.TPP and examine the site of work and its surroundings at their cost and obtain for themselves on their responsibility, all information that may be necessary for preparing the tender and entering into a contract.. The agency shall be deemed to have inspected the site and its surroundings before hand and taken into account all relevant factors pertaining to the site in the preparation and submission of tender.

9.00.00 BID QUALIFYING REQUIREMENT:

Required evidence for the following BQR conditions should be furnished along with the tender. Otherwise the offer will be summarily rejected.

1. Manufacturer or authorized dealer/distributor of dual source current and voltage injection kit for testing of relays and meters should only participate in the tender. The attested copy of the evidences for the same should be enclosed along with the offer.
2. The Bidder shall have 24 Hours support facility in eastern region of India and details for the support should be enclosed. Any type of defectiveness of the kit to be rectified by the bidder in India.
3. The bidder should have annual turn over of not less than Rs.09 lakh in any one of the last 3 consecutive financial years (2011-12, 2012-13 & 2013-14). Attested photo copies of Annual Audited statement/ balance sheet/ Income statement / Profit & Loss statement duly certified by the Chartered Accountant for the above three years should be enclosed.

The bidders may also enclose the following documents as a proof of turnover.

- i. Attested copy of the income tax return filed by the bidder.
 - ii. Attested copy of sales tax clearance certificate
 - iii. Attested copy of enlistment certificate issued by NSIC containing turnover details of the bidder for the respective period.
4. Performance certificate from Govt. Organisation like PGCIL, Central PSU, NTPC, state electricity boards, utilities etc where Kit has been working for last 5years.
 5. The bidder should produce the related support documents specified in the technical specification i.e. different certificates of EMC: 2004/108/EC (CE Conform), IEC 61326-1, IEC 61000-6-4, IEC 61000-3-2/3 etc
 6. The bidder should confirm the support service or supplying spares of supplied relay testing kit for at least next 20 years
 7. After Techno-commercial bid submission, Bidder should give a field demonstration whenever asked by WBPDCCL for technical scrutiny.

10.00.00 TERMS AND CONDITIONS

Sealed Tenders in two parts, Part A (for Technical Specification bid alongwith commercial terms and conditions) and Part B (for Price Bid) in duplicate (Non-transferable) with firm's own seal are invited as detailed in the attached sheet ANNEXURE-II under following terms and conditions:-

1. Tender Notice No. Brief description of the supply and due date of opening should be clearly mentioned on the top of the envelope.
2. Material Delivery Schedule: - Ninety (90) days from the date of the order. Delivery is to be effected at Bk.TPP Store. Unloading will be done by WBPDCCL.
3. LEAF LET ETC: - The descriptive literature of materials shall have to be enclosed along with the tender / quotation.
4. INSPECTION:-
 - a) The complete equipment has to be offered for inspection by WBPDCCL representative at bidder's works and the bidder shall give 30 days advance notice for arranging the inspection after the equipment is made fully ready. Inspection will also be carried out at BkTPP stores by the representatives of concerned dept after effecting delivery.
 - b) Decision of Sr. Manager (TECIT), BkTPP would be final & binding for inspection at vendor's works & vendor must offer for inspection by WBPDCCL at their works.
 - c) The equipments can be dispatched only after the clearance by WBPDCCL.

d) Rejected Materials have to be lifted by party at their own cost. Loading at BkTPP for lifting the rejected materials will be arranged by party at their cost.

5. PRICE:-

- a) Rates and total amount should be mentioned both in figure and words, if there be any difference the fewer amounts will be considered.
- b) Excise duty, S.T. /VAT, Service Tax, other statutory Levies, Forwarding & Packing & freight etc must be clearly mentioned in the tender/quotation.
- c) The rates inclusive of delivery at Bk.T.P.P. Stores must be quoted. Break up should also be submitted.
- d) The D G S & D rate should be quoted, if there be any D G S & D rate contract that is to be furnished.
- e) Bids or modification of bids received after opening of Tender will not be considered.

6. PAYMENT:

- a) 60% payment will be made by Cheque against Store Received Voucher (SRV). The SRV will be issued only after acceptance of material by user department. Payment by Demand Draft with bank charges on vendor's account may be considered subject to mention in relevant quotation / offer.
- b) 30% payment will be made after successful Installation & Commissioning at site.
- c) 10 % payment on trouble free performance of the system for 12 months from the date of go-live of system and necessary IR clearance.

PAYING AUTHORITY:

a) For 60% payment: Bill in triplicate alongwith challans is to be submitted to the G.M (F&A)/Dy.GM (F & A), WBPDCCL Corporate Office. STD Form for concessional rate of S.T can be provided to the supplier only after completion of supply with submission of final bill. Excise duty can not be without E. Duty Gate Pass (GP-I) E.D. Gate Pass is to be submitted in original along with the Invoice/Bill. Part payment for part delivery will not be allowed.

b) For 30% payment: Bill in triplicate is to be submitted after successful completion of the Installation & Commissioning job, to the concerned controlling officer for his certification and forwarding the same to the G. M. (F&A)/Dy. G.M. (F & A), WBPDCCL Corporate Office towards release of payment.

c) For 10% payment: Bill in triplicate after trouble free performance of the system for 12 months from the date of go-live of system alongwith necessary documents is to be submitted to the controlling officer for his certification and forwarding the same to GM [F&A] / Dy. GM (F & A), WBPDCCL Corporate Office towards release of payment. Part payment for part delivery will not be allowed.

7. TEST CERTIFICATE:- Material test certificate from Govt. Approved Laboratory may be submitted along with supplies.

8. **GUARANTEE/WARRANTY:-** The material must conform to the specifications as indicated in the purchase order. Also the material should be guaranteed against any manufacturing defects due to faulty design or bad workmanship or defected material for a period of 12 months from the date of commissioning or 18 months from the date of supply whichever is earlier. If any material or part thereof is found or proved to be defective within this period, you shall be liable to replace the same at free of cost within a reasonable period, failing which Bk.TPP authority will take necessary measure for replacement of damaged material from elsewhere and expenditure incurred on above ground shall be realized from you. The equipment is to be made functional after attending the problem as early as possible. Guarantee Certificate for supplied material is to be submitted along with material.
9. **PERFORMANCE BANK GUARANTEE:-** A Bank Guarantee for 5% of the limiting value of basic price will be submitted for security cum performance guarantee. The said Bank Guarantee will be furnished prior to commencement of supply of materials and Bank Guarantee will remain valid till expiry of the guarantee period.
10. **LIQUIDATED DAMAGE:-** The WBPDCCL reserves the right to repudiate the contract if the materials are not delivered within the stipulated time. However, the authority may waive this condition and impose a L.D. for delayed supply @1/2% on the value of undelivered materials which may be either for total quantity or delivery effected partly beyond the scheduled time and for each week of delay or part thereof up to a maximum of 5% of the total value of the materials.
11. **OTHER REQUIREMENTS:-** Copies of orders received from Govt. agencies, Undertaking along with proof of execution of the orders shall have to be furnished along with the bids.

Notwithstanding any thing stated above WBPDCCL reserves the right to assess the bidder's capability and capacity to perform the contract, should be circumstances warrant such assessment in the overall interest of WBPDCCL.

WBPDCCL reserves the right to split the order, alter the quantity and reject any or all tenders without assigning any reasons whatsoever. WBPDCCL does not take any responsibility for postal delays.

SR. MANAGER (Materials)
BAKRESWAR THERMAL POWER PROJECT
W. B. P. D. C. L.

ANNEXURE –I

Item descriptions with quantity

Sl. No.	Item Code	Item Description	UOM	Quantity
1.	06C140037	Spectra IV camera, IP,PTZ series, Network Dome(SD4E23-PG-E1-X Make: Pelco, The camera associated with wall mount: Pelco DF-5 Installation, Commissioning and integration of the system with our existing IP base, Pelco make CCTV system.	NO	12.00
2.	06C080228	Power supply unit of PELCO PTZ camera, model no WCS1-4	NO	13.00
3.	06C010016	Single mode Media Converter, DMC-805G 1000 Base-T to mini GBIC media converter. Make D-link	NO	14.00
4.	06C080207	Network Switch 10/100/1000 MBPS, 8 Port Unmanaged. Make D link	NO	14.00
5.	06C080184	Patch Cord, Fibre, SC-SC Type Duplex, 2 M, 9/125 Microns Singlemode, Plastic Moulded Plug Type Connector and Std 2.5 mm Ceramic Ferrule	NO	30.00
6.	06C080152	Patch Cord, SC-LC Type Duplex, 9/125 microns, Single Mode Patch Cord, 2 M, With Plastic Moulded Plug Type Connector & Std 2.5 mm Ceramic Ferrule	NO	30.00
7.	06C080186	Transceiver, 1-Port Mini-GBIC LX Single Mode Fiber (Upto 10 km, Support 3.3 V Power), DEM310GT, D-Link	NO	12.00
8.	06C010068	Cable, Fibre Optic, 6-Fibre, Single-mode, Jelly Filled, With CST Armour, Embedded Steel Wire and Outer PE jacket, 9/125 Microns, Direct Burial Type	MTR.	9000.00
9.	06C011255	Cable, Fibre Optic, 12-Fibre, Single-mode, Jelly Filled, With CST Armour, Embedded Steel Wire and Outer PE jacket, 9/125 Microns, Direct Burial Type	MTR	5000.00
10.	06C080197	Pigtail, SC Fibre Optic Pigtail, 9/125 Microns, Single Mode, With Plastic Moulded Plug Type Connector and Ceramic Ferrule	NO	300.00
11.	06C080336	Switch, Ethernet Layer-2, 10/100/1000 Base-T, 24 Port, Stackable Management Switch, with 4 Combo Ports and 20 UTP Ports, Model: DGS-3120-24TC, D-Link The other model of D-link may be accepted. The L2 switch must have 8 combo SFP Port and 16 UTP Port. Loaded with 6 Nos. Compatible Single Mode GBIC Module.	NO	01.00
12.	06C020008	Box, 12 Port, Light guide Interconnect Unit [LIU], Fibre Termination Box, Rack Mount, D-Link LIU loaded with front plate & coupler	NO	02.00
13.	06C080183	Box, 6 Port, Light guide Interconnect Unit [LIU], Fibre Termination Box, Rack Mount, D-Link	NO	13.00
14.	06C080362	Coupler Panel, 1X6 SC Panel With Adaptor, for LIU, Make: D-Link	NO	15.00
15.	04M020035	MCB 2 Pole 5A/6A Top Hat Rail Mounted, 240/415V AC, 10KA	NO	13.00
16.	06C080074	Power Manager, Horizontal Power Manager [Indigenous], Part Code: 79-1901, HCL, Power manager must have surge protection. Make: Standard make	NO	13.00
17.	15C140004	Enclosure, Network Enclosure, 12U, Without Side	NO	02.00

		Access, Valrack, The Enclosure may be 9U or 12U with out side access Order unit is No.		
18.	15Z010993	Network Enclosure, (22"x18"x14"), for 24 Port Switch, The enclosure will be outdoor type, Standard make. Must have colour coating & sealing against rain water. Dimension other then specified may be accepted, but it should have enough space & mounting option for 6 port LIU, 8 port switch, media converter, Pelco camera power supply, MCB and power manager.	NO	13.00
19.	15X040091	License application software for IP base CCTV camera. Model: Spectra-IV, Pelco	NO	08.00
20	15X040092	Server for CCTV system Model: IBM X3500M4 Server Specification Intel Xeon Processor E-5 2600V2, 4 core 3.5 GHz. 12 GB (3*4GB) DDR3 1600 MHz ECC RAM, Extendable up to 32GB 24TB (6*4TB) SATA II 3.5" HDD, Extendable up to 32 TB (8 Nos. of Hot swap 3.5" SATA bay) 30MB L3 Cache 8 Nos. of PCI slots 4 Nos. of USB ports (At least 2 Nos. in front side) 2 Nos. half height 5.25" bays for optical support DVD R/W 4 Nos. of Integrated Gigabit Ethernet 1000Base-TPorts (RJ-45) Redundant hot swap 550W AC/750WAC power supply 21" or higher LCD monitor (SAMSUNG) USB Mouse & Keyboard OS: Microsoft Windows Server 2008 R2 Video recording software DS control for PELCO camera	NO	01.00

ANNEXURE-II

TECHNICAL SPECIFICATIONS: CCTV SYSTEM

1. Introduction:

1.1. CCTV system is required to ensure effective monitoring of an area as well as create a tamperproof record for post event analysis. The System shall provide an online display of video images on LCD/LED/TV monitors located in control rooms.

1.2. System should facilitate viewing of live and recorded images and controlling of all cameras by the authorized users present in the LAN.

1.3. System should provide inter-operability of hardware, OS, software, networking, printing, database connectivity, reporting, and communication protocols. System expansion should be possible through off-the-shelf available hardware.

1.4. Equipment with better specifications shall be accepted.

1.5. This project will be an extension of our existing IP Base CCTV System & it will integrate with our existing system.

OEM of Cameras, Servers, Raid backup device, Monitors, and Switches shall be ISO firms & the offered products must be CE certified.

2. General Specifications of System:

2.1. Proposed CCTV system shall be an open standard based integrated system with IP network centric functional and management architecture aimed at providing high-speed Manual/automatic operation for best performance.

2.2. System shall use video signals from various types of outdoor color cameras installed at different locations, process them for viewing on workstations/monitors at control rooms and simultaneously record all the cameras after compression using Mouse-Keyboard controllers shall be used for Pan, Tilt, Zoom, and other functions of desired cameras.

2.3. System shall have combination of Digital Color video Cameras with individual IP address, Network Video recorders (CAMERA SERVER), Raid backup device for recording, Application software, Color Video Monitors, Mouse-Keyboard, workstation for System Administration / Management /Maintenance etc.

2.4. The CCTV system will be server based. Each Camera Server shall be able to handle 30 or more cameras.

2.5. System should ensure that once recorded, the video can not be altered; ensuring the audit trail is intact for evidential purposes.

2.6. System shall provide sufficient storage of all the camera recordings for a period of 30 days or more using necessary compression techniques for all cameras.

2.7. The recording resolution and frame rate for each camera shall be user programmable.

2.8. Surveillance CCTV System shall operate on 230 V +/- 10%, 50 Hz single-phase power supply. If any equipment operates on any voltage other than the supply voltage and supply frequency, necessary conversion/correction device for supply shall be supplied along with the equipment.

2.9. All the cameras & control equipment will be installed outdoor, on illumination towers or top of the building roofs. So, sufficient environmental protection should be available for operation of these equipments. The cameras shall be suitable for operation from (-) 5deg C to (+) 50deg C and relative humidity up to 90 % non-condensing. All the cameras should be able to withstand heat, rain, and hail-storm and wind speed up to 130mph.

3. System requirements:

3.1. All the Cameras shall be IP based.

3.2. All Cameras shall be Day/Night cameras.

3.3. Outdoor camera housing shall be of IP 66 or better rating. These must be integrated by the camera manufacturer.

3.4. System must provide built-in facility of watermarking or Digital certificate to ensure tamperproof recording so that these can be used as evidence at a later date, if so desired. The recording shall support audit trail feature.

3.5. All camera recordings shall have Camera ID & location/area of recording as well as date/time stamp. Camera ID, Location/Area of recording & date/time shall be programmable by the system administrator with User ID & Password.

3.6. System to have facility of additional camera installation beyond the originally planned capacity.

3.7. System shall be triplex i.e. it should provide facility of Viewing, Recording & Replay simultaneously by different users and Administrator.

3.8. The offered system shall have facility to export the desired portion of clipping on CD or DVD or Pen drive or External Hard Drive. Viewing of this recording shall be possible on standard PC using standard software like windows media player etc.

3.9. System shall have provision of WAN connectivity for remote monitoring.

4. System design:

4.1. The camera shall be IP based, UTP ready for viewing on LAN and on monitors and also recording into the CAMERA SERVER Raid backup device @ 25 fps or lower frame rate, user selectable as per requirement, for each individual camera.

All Cameras should be PTZ

The view and control of cameras should be possible from any client or Internet Explorer Client.

The system should support non-proprietary servers, PCs and network.

The system should allow independent hardware and software upgrades.

The system should support REDUNDANCY of System and be capable of integrating with the type of storage system suggested in the tender document.

The system should support alarm, event, operator and video motion detection based recording.

The system should support flexible recording and view based on individual frame rates configured for individual cameras.

4.2. Camera shall be connected to Layer 3 switch as per system design using UTP CAT 6 Cable or fiber optic cable and the required connectors as per standards. The power may be UPS or Non UPS supply. Voltage range of the non UPS supply Power source will be within a band of 210V AC to 250V AC.

4.3. Monitoring at control rooms may be restricted to operation of certain cameras only & system administrator should be able to configure the system accordingly. The software should have the facility to group the cameras as per requirement. The grouping of the cameras will be allowed only by the Administrator.

4.4. Database Server shall keep track of all configurations & events. This will help in proper System administration & management of redundancies etc.

4.5. Video stream from individual cameras shall be recorded on respective Camera Server or RAID backup device. System shall have provision to automatically over-write the new information after the period of 30 days & necessary script/algorithm must be available in the Application.

4.6. All the computer in LAN should be provided with software to view and control the cameras

5. Application Software

5.1. The software shall operate on open architecture.

5.2. Digital video surveillance control software should be capable to display and manage the entire surveillance system. It should be capable of supporting variety of devices such as cameras, video PTZ controller, Raid backup device etc.

5.3. The software should have inbuilt facility to store configuration of cameras.

5.4. The software should Support flexible 1/2/4/9/16/25 Windows Split screen display mode or Scroll mode on the PC monitor or on preview monitor as per site requirement.

5.5. The software should be able to control all cameras i.e. PTZ control, Iris control, auto / manual focus, and color balance of camera, Selection of presets, Video tour selection etc.

5.6. The software is required to generate reports of stored device configuration. The control software is required to provide alarm and alarm log. The log shall be able to be achieved, printed and displayed using a device filter, a device group filter and/or a time window.

5.7. The software should have user access authority configurable on per device or per Device group basis. The user shall have the facility to request the access of any camera and can control the camera for a reservation period. Control of camera is released after the reservation period.

5.8. It should provide programmable motion detection and recording, to be defined area-wise. System must be able to support video motion detection algorithms to detect and track objects, Adapt to a changing outdoor environment, Ignore environmental changes including rain, hail, wind, swaying trees and gradual light changes.

5.9. The software for clients should also be working on a browser based system for remote users. This will allow any authorized user to display the video of any desired camera on the monitor with full PTZ and associated controls.

5.10. Backup: Continuous Online backup should be maintained to protect against storage failure.

5.11. Storage: Data storage should be in a Server, Technical building, BkTPP. The capacity of the storage should be equal to 30 days of recording of all cameras. The system should follow FIFO on recording.

6. Material needed including Quantity:

6.1 BOQ of the Items:

Sl. No	Item Description	Make	Quantity
1	Spectra IV camera, IP,PTZ series, Network Dome (SD4E23-PG-E1-X, Colour Video Camera, Day Nigh). Camera mounting DF 5	Pelco	12 Nos.
2	Power supply unit of PELCO PTZ camera, model no WCS1-4, Input supply 230V AC, single phase, 50Hz	Pelco	13 Nos.
3	Single mode Media Converter, DMC-805G 1000 Base-T to mini GBIC media converter. Make D-link	D-link	14 Nos.
4	Network Switch 10/100/1000 MBPS, 8 Port Unmanaged. Make D link	D-link	14 Nos.
5	Patch Cord, Fibre, SC-SC Type Duplex, 2 M, 9/125 Microns Singlemode, Plastic Moulded Plug Type Connector and Std 2.5 mm Ceramic Ferrule	D-link	30 Nos.
6	Patch Cord, SC-LC Type Duplex, 9/125 microns, Single Mode Patch Cord, 2 M, With Plastic Moulded Plug Type Connector & Std 2.5 mm Ceramic Ferrule	D-link	30 Nos.
7	Transceiver, 1-Port Mini-GBIC LX Single Mode Fiber (Upto 10 km, Support 3.3 V Power), DEM310GT, D-Link	D-link	12 Nos.
8	Cable, Fibre Optic, 6-Fibre, Single-mode, Jelly Filled, With CST Armour, Embedded Steel Wire and Outer PE jacket, 9/125 Microns, Direct Burial Type	Molex/ Tyco/ D-link	8000 Mtr.
9	Cable, Fibre Optic, 12-Fibre, Single-mode, Jelly Filled, With CST Armour, Embedded Steel Wire and Outer PE jacket, 9/125 Microns, Direct Burial Type	Molex/ Tyco/ D-link	3000 Mtr.
10	Pigtail, SC Fibre Optic Pigtail, 9/125 Microns, Single Mode, With Plastic Moulded Plug Type Connector and Ceramic Ferrule	D-link	300 Nos.
11	Switch, Ethernet Layer-2, 10/100/1000 Base-T, 24 Port, Stackable Management Switch, with 4 Combo Ports and 20 UTP Ports, Model: DGS-3120-24TC, D-Link	D-link	01 Nos.
12	Box, 12 Port, Lightguide Interconnect Unit [LIU], Fibre Termination Box, Rack Mount, D-Link	D-link	02 Nos.
13	Box, 6 Port, Lightguide Interconnect Unit [LIU], Fibre Termination Box, Rack Mount, D-Link	D-link	13 Nos.
14	Coupler Panel, 1X6 SC Panel With Adaptor, for LIU Make:D-Link	D-link	15 Nos.
15	MCB 2 Pole 5A-6A Top Hat Rail Mounted, 240/415V AC, 10KA	C&S/ Havells	13 Nos
16	Power Manager for distribution of AC Power Supply in each camera location	Reputed Make	13 Nos
17	Enclosure, Network Enclosure, 12U, Without Side Access,	Valrack	02 Nos
18	Enclosure (Outdoor type) at each Camera Location, for mounting LIU, Media Converter, Power Supply Unit of Camera and MCB	Reputed Make	13 Nos.

19	License application software for IP base CCTV camera. Software, which Should match with our existing software*	Pelco software	08 Nos.
20	Standby Server for CCTV system, Model: IBM X3500M4	IBM	01 No.
21	Installation, commissioning and integration of the total system		Total system

6.2: Detailed specifications:

SI no 1: Color video Dome Day/Night Camera with PTZ (Pelco: Spectra IV)

Image Device	Interline transfer 1/4" or better format CCD sensor
Focal length	4 mm to 72 mm or better (for Artificial Intelligence Cameras with better focal length i.e.; 3.5 mm to 91 mm to be used)
Optical zoom	28 X or better
Number of Pixels	720 X 576
Scanning System	PAL
Resolution	480 TVL or better
Illumination	1.0 Lux (Color), 0.05 Lux (B/W) or better
Pan Travel	360° Continuous
Tilt Travel	0 - 90°
Manual Tilt Speed	0.5°/SEC to 90°/SEC
Manual pan speed	0.5°/SEC to 90°/SEC
Preset Tilt speed	0.5°/SEC to 90°/SEC
Preset Pan Speed	0.5°/SEC to 300°/SEC
Preset positions	Min. 64
Iris Control	Auto
Focus	Auto
Back Light compensation	Required with black masking or other suitable technology
White balance	Auto
Electronic shutter	Auto
S/N ratio	>= 48 dB
Acceptable brand	Bosch/Honeywell/Pelco
Certification	UL/ CE/ FCC (At least two)
Communication(port)	IP based (RJ-45)
Vision	Day and Night
Protection Class	IP 66

SI no 14 : Server with Recording Manager

- Server shall be used to record video streams based on the configuration assigned by administrator. Workstations & Servers within the LAN should be able to access the recorded video streams. The Server should support simultaneous play back and recording at full duplex operation.
- It shall provide a high quality recording storage and play back of images. It should support integration with LAN to provide Centralized Management and shall operate on Windows OS. This device should have the following features and specifications:

Server	Model: IBM X3500M4, Intel Xeon processor E5-2600 v2, four cores 3.5 GHz, up to 30 MB L3 cache, 8 Nos. PCI slots,
Memory	12GB (3*4GB) DDR3,1800MHz, ECC RAM. Extendable up to 32 GB
Hard Drives	20TB (5*4TB) SATA II 3.5 inch HDD. Extendable up to 32TB (8 Nos. Hot swap 3.5 inch SATA bay)
DVD writer	Two half-height 5.25" bays for optical Supports DVD-R/W
Network Adapter(NIC)	Four integrated Gigabit Ethernet 1000BASE-T ports (RJ-45)

Sound Card	In- Built
Monitor	21 inch or higher size, LCD monitor (Samsung)
Video Card	In Built
USB 2.0 & 3.0	4 Nos. of USB ports with at least 2 nos. at front panel
Mouse/ Keyboards	Optical Mouse with scroll/USB Keyboards
Power supply	Redundant hot-swap 550 W AC/750 W AC power supply
Operating system	Microsoft Windows Server 2008 R2 (Original CD should be provided)

SI no 15: Application Software

- 15.1 The software shall operate on open architecture.
- 15.2 Digital video surveillance control software should be capable to display and manage the entire surveillance system. It should be capable of supporting variety of devices such as cameras, video PTZ controller, Raid backup device etc.
- 15.3 The software should have inbuilt facility to store configuration of cameras.
- 15.4 The software should Support flexible 1/2/4/9/16/25 Windows Split screen display mode or Scroll mode on the PC monitor or on preview monitor as per site requirement.
- 15.5 The software should be able to control all cameras i.e. PTZ control, Iris control, auto / manual focus, and color balance of camera, Selection of presets, Video tour selection etc.
- 15.6 The software is required to generate reports of stored device configuration. The control software is required to provide alarm and alarm log. The log shall be able to be achieved, printed and displayed using a device filter, a device group filter and/or a time window.
- 15.7 The software should have user access authority configurable on per device or per Device group basis. The user shall have the facility to request the access of any camera and can control the camera for a reservation period. Control of camera is released after the reservation period.
- 15.8 It should provide programmable motion detection and recording, to be defined area-wise. System must be able to support video motion detection algorithms to detect and track objects, Adapt to a changing outdoor environment, Ignore environmental changes including rain, hail, wind, swaying trees and gradual light changes.
- 15.9 The software for clients should also be working on a browser based system for remote users. This will allow any authorized user to display the video of any desired camera on the monitor with full PTZ and associated controls.
- 15.10 Backup: Continuous Online backup should be maintained to protect against storage failure.
- 15.11 Storage: Data storage should be in a Server at Plant Technical building at BkTPP. The capacity of the storage should be equal to 30 days of recoding of all cameras. The system should follow FIFO on recording.

SI No 18: Installation and Commissioning:

The total system has to be installed, commissioned and integrated at site (i.e. BkTPP) up to satisfaction of the BkTPP TECIT department. Fiber optic cable laying, splicing and jointing at the different LIUs however are excluded in the vendor's scope.

6.3: Camera Housing & mount: The camera mount should be:

- i. Of the same make as that of camera and suitable for the model number offered as specified by the manufacturer and should be an integrated unit.
- ii. Should support the weight of camera and accessories such as housing, pan & tilt head in any vertical or horizontal position etc.

