Notice Inviting Tender

GSPC Pipavav Power Company Ltd. (GPPC) invites Online Bids from Indian Bidders for Design, Supply, Installation, Testing & Commissioning of CCTV surveillance system & Post Warranty AMC at GPPC's 5 MW Solar Power Plant at Gujarat Solar Park, Village Charanka, Ta. Santalpur, Dist. Patan, Gujarat, India

Tender No.	GPPC/Com./Solar/CCTV/01/2014
Estimated Cost of the tender items.	Rs. 27,00,000.00
Tender Fees Amount	Rs.10,000
Earnest Money Deposit Amount By D.D	Rs.27,000
Online [e-tendering] tender/offer submission last date up to 15:00 hrs only [this is mandatory]	22nd July, 2014
Physical receipt of all the relevant documents last date up to 14:00 hrs	22nd July, 2014
Date of opening of tender fee, EMD cover and technical bid physical as well as on line opening at 16:00 Hrs.	22nd July, 2014
Tentative date of on-line opening of price bid at 15:00 Hrs.	1st August, 2014
Time allowed for Supply, Installation, Testing & Commissioning of CCTV surveillance system	70 Days from issuance of Work Order
Validity of rates	180 days from last date of Bid submission.

Bidders should be in touch with the above websites for information regarding revision/corrigendum/ amendment in tender till due date of on line submission and thereafter. No separate correspondence will be done in this regard.

General Manager (Commercial)
GPPC, Gandhinagar

GPPC

GSPC PIPAVAV POWER COMPANY LTD.

INVITATION TO BID

Design, Supply, Installation, Testing & Commissioning of CCTV surveillance system & Post Warranty AMC at GPPC's 5 MW Solar Power Plant

At

Gujarat Solar Park

Village Charanka, Ta. Santalpur, Dist. Patan

Gujarat, India

GSPC Pipavav Power Company Ltd.
2nd Floor, Building no. A/78/3-8
Beside iGATE, GIDC Electronic Estate
Sector-25, Gandhinagar - 382 016
INDIA

Phone No. :- +91 79 66701686 / 87

FAX No. :- +91 79 23288056

Section – 1

Preamble

1. PREAMBLE

M/s. GSPC Pipavav Power Company Ltd. (herein referred as "GPPC") has successfully commissioned 5 MW Grid connected Solar PV Power Project at Gujarat Solar Park, village –Charanka, Dist. Patan. The plant is successfully in operation since March 2012. GPPC Solar Power Plant has achieved high availability and high CUF.

1.1 Objectives for Invitation of Bid

GPPC wish to provide a CCTV based security system for surveillance of 5 MW Solar Power Plant. The surveillance system shall have the facility to monitor moving / stationary objects like persons, vehicles, animals etc. inside Solar Power Plant premises, periphery, inside the boundary wall for the security, safety and threat assessment.

1.2 GPPC wish to obtain a techno commercial proposal from reputed organizations (hereinafter called , Bidders) to Design, Supply, Install Testing, Commissioning and AMC support of CCTV SURVELLIANCE System as described in this document. The scope shall be as follows but not limited to the following;

a) To provide continuous surveillance of the entire premises to be protected viz. operating area, offsite areas, security gates, perimeter and other vital locations during daytime as well as night, Zero visibility.
b) To provide remote plant overview by manual command and/or automatic selection. System should be capable of remote monitoring / recording i.e from GPPC, Gandhinagar HO Monitoring and Recording shall be available at Laptop/PC.
c) To provide alerts and alarms on intrusion and any other events as specified, at the Gates, perimeter, other critical areas etc, along with auto recording of the event i.e. Alarm on Both the PC (At control Room and At security Room)
d) To monitor entry and exit of all vehicles and human beings at the main gate and keep recording of the same. Also Recording the Number Plate of vehicle and driver's face.
e) To provide an overview of critical operating areas such as Inverter Rooms, Panel Room, Switchyard etc. for monitoring of safe operating practices.

Provision shall be kept so as to cope up with future requirements without any major modification and programmer's support in the system. System should be modular type. In this regard the bidder shall supply all the necessary documents which are essentially required for modifications that can be incorporated by the GPPC at a later date as per system requirement. Also bidder to confirm that all necessary help shall be extended by the bidder for implementation of these future expansion plans as and when these are implemented for Solar Power Plant.

Section – 2

Instruction to Bidders

2. INSTRUCTION TO BIDDER

2.1 Definitions

"GPPC" shall mean M/s. GSPC Pipavav Power Company Ltd, having its office at. 2nd Floor, Building no. A/78/3-8, Beside iGATE, GIDC Electronic Estate, Sector-25, Gandhinagar - 382 016 and shall include all their legal representatives and assignee.

"BID DOCUMENT" includes the complete set of documents attached hereto including all Annexures, forms, and bid Amendments, if any.

"BIDDER" shall mean an individual or firm or their legal representative who has received the BID DOCUMENT and is submitting the BID as per the terms & conditions herein.

2.2 Contents of Bid Documents.

The Bid Invitation Document has been prepared for the purpose of inviting Bids for Supply and Installation of CCTV surveillance system as a turnkey based . The Bid document comprises of:

Section – 1 - Preamble
Section – 2 - Instruction To Bidder
Section – 3 - Bidder Qualifying Criteria
Section – 4 - Scope Of Work
Section – 5 - General Terms and Conditions
Annexure – 1 - Letter of Undertaking
Annexure – 2 - Information and Documentary Evidence of the Bidder's Qualification
Annexure – 3 - Details of the Assignments in Last Three Years
Annexure – 4 - Technical Specification
Annexure – 5 - Format for Price Bid/ Proposal/Schedule of Rates
Annexure – 6 - Format Of Bank guarantee for EMD
Annexure – 7 - Tentative Architectural Diagram (Not to the scale)

2.3 The BIDDER shall bear all costs associated with the preparation and submission of the BID and GPPC will, in no case be responsible or liable for these costs regardless the conduct or outcome of the process. The BIDDER is expected to examine all instructions, forms, terms & conditions in the BID DOCUMENT.

2.4 GPPC reserves the right to cancel any or all the BIDs as per its discretion without assigning and giving any reason thereof. GPPC also reserves right to rescind the process of this BID at any time before placement of the order for the said scope of work herein.

2.5 The BIDDER shall prepare the BID based on the information furnished and terms & conditions provided in the BID DOCUMENT. The Bidder shall undertake and shall be deemed to have undertaken a thorough study of the proposed work, the job site(s) involved, the site conditions, the labour, power, water, material and equipment availability, transport and communication facilities and temporary offices and accommodation quarters and all other factors, constraints and facilities necessary for the formulation of the Bid, supply of materials and the performance of the work(s) as envisaged in this document. The BID shall also contain all the information asked in the BID DOCUMENT with supportive data wherever necessary.

2.6 Bidder shall inspect and examine the site(s) and its surroundings and shall satisfy himself before submitting his bid as to the nature of the ground present, physical conditions and all roads, approaches and lands which may be used temporarily otherwise in connection with the works, means of access to the site accommodation he may require and in general shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his bid**.**

2.7 Failure to furnish all information required by the BID DOCUMENT(s) or submission of a BID not substantially responsive to the BID DOCUMENT(s) will be at the BIDDER's risk and may result in the rejection of the BID.

2.8 The Bid submitted is to be signed by a person who is a duly authorized by the company. A proof in this regard to be submitted in the Technical bid.

2.9 This BID DOCUMENT is non-transferable. Each bidder shall submit only one Bid by himself. Joint Venture or Consortium Bid is not allowed.

2.10 At any time prior to the deadline for submission of BIDs, for any reason, whether at his sole initiative or any response to a clarification requested by a BIDDER, GPPC may modify the BID DOCUMENT(s) by amendment(s) thereto. The amendment(s) will be notified on https://gppc.nprocure.com GSPC/ GPPC websites. The Bidders are advised to check websites for the same.

2.11 TENDER FEE & EARNEST MONEY DEPOSIT(EMD)

2.11.1 The BIDDER shall deposit non refundable Tender Fee of Rs.10,000 (Rupees Ten Thousand) in the form of an Account Payee Demand Draft from a scheduled bank payable at Gandhinagar/ Ahmedabad at the time of submission of the Technical Bid.

2.11.2 The BIDDER shall deposit Earnest Money Deposit for an amount of Rs.27,000/- (Rupees Twenty Seven thousand only) in the form of an Account Payee DD or Bank Guarantee from a scheduled bank as per the Format Given at Annexure-6. EMD Security will remain valid for a period of forty-five days beyond the final bid validity period. No interest shall be paid on EMD.

2.11.3 Any Bid not accompanied by Tender Fee, Bid Security/ EMD shall be rejected. Please furnish details of Tender Fee & EMD paid on the envelope.

2.11.4 EMD securities of the unsuccessful bidders will be returned at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract.

2.11.5 EMD of the successful Bidder shall be released along with payment of 2nd RA Bill. If required, validity of the EMD of the successful bidder shall be extended further.

2.11.6 EMD shall be forfeited if the bidder withdraws his bid during the period of Bid validity. EMD shall be forfeited, if the successful bidder refuses or neglects to execute the contract within 15 days of issuance of LOI.

2.12 Bid Clarification/ Amendment

2.12.1 The prospective BIDDER requiring any clarification shall write to GPPC on or before the last date of Bid Clarification so as to ensure submission of BID on or before the Last Date of Submission of BID and the GPPC will notify on https://gppc.nprocure.com & GSPC/ GPPC websites. The Bidders are advised to check websites for the same.

2.12.2 At any time prior to the Last Date Of Submission of BID, GPPC, for any reason, whether at his sole initiative or any response to a clarification requested by a prospective BIDDER, may modify the BID DOCUMENT(s) by

amendment(s) thereto. The amendment(s) will be notified on https://gppc.nprocure.com & GSPC/ GPPC websites. The Bidders are advised to check websites for the same.

2.13 BID Validity

The BID shall be kept valid for at least 180 days from the Last Date of BID Submission. A BID with validity for a shorter period than the above may be rejected by GPPC. If required, GPPC may solicit the BIDDER's consent to an extension of the period of BID validity.

2.14 Deviations

No deviations to be taken by the Bidder to the Bid Document(s). Bids with any deviation are liable for summarily rejection.

2.15 BID Price

2.15.1 The price quoted by the BIDDER shall be all inclusive considering the total scope of work as envisaged in the BID DOCUMENT.

2.15.2 The price should be quoted in Indian Rupees only and written both in words and figures and in case of any deviation, prices in words shall be valid and binding.

2.16 The BID prepared by the BIDDER and all correspondence and documents relating to the BID exchanged between the BIDDER and the GPPC shall be written in English language only.

2.17 Submission of BID

2.17.1 All the relevant documents as per requirement of the Bid document must also be submitted physically along with the Tender Fee & EMD in sealed cover so that the same is received in this office on OR before the due date and time.

2.17.2 Any deviation found in Data / Details / Documents between on line offer (e-tendering) and physically submitted documents (Bid document), Data, Details, Documents as physically submitted shall be considered as submitted for evaluation.

2.17.3 Bidders are requested to submit price – bid (Annexure 5) on-line only and not to submit the price bid (Annexure 5) in physical form. This is mandatory. If price bid is submitted in physical form, same will not be

opened and only on-line submitted price bid will be considered for evaluation.

2.17.4 It is mandatory for all the bidders to submit their Technical Bid documents by both forms viz. on – line (e-tendering) and physically in schedule time. If Bid documents submitted in only any one form, say either by on line or physically, in that case the same Bid will not be considered.

2.17.5 The Technical BID along with Tender Fee and EMD, prepared by the BIDDER shall be in two copies in separate envelopes.

2.17.6 The Technical Bid must contain following details / Documents. All the documents must be stamped and self certified.

(i) Proof of Tender Fee in form of Account Payee DD & EMD payment, either in form of Account Payee DD or original Bank Guarantee, in Favour of GPPC.

(ii) Annexure – 1 – Letter of Confirmation with respect to understanding of the complete scope of services as envisaged, No Deviation in the Bid Document.

(iii) Copy of power of Attorney / Authority to sign the Bid Documents.

(iv) Annexure – 2 – Details of the Company

(v) Certificate from Practicing Chartered Accountant for the year wise turnover and profit of last three years

(vi) The List of jobs carried out by the Bidder for Providing IP Based CCTV surveillance system to industrial plants in last Three (3) years and its Documentary evidences to substantiate the same. (Annexure –3)

(vii) Details of the Authorizations shall be available from the Manufacturer (1) Technical Compliances to the specifications, this should be vetted by manufacturer (2) Authorization that the items quoted by Bidder in production and serviceable for next 5 year.(3) Letter from manufacturing for supporting system for next 5 years.(4) Manufacturer should provide warranty for 1 year.

(viii) Architecture diagram clearly marking each component, Total Bill of Quantity (BOQ) and brief functionality therein along with data sheets of the products and components in soft copies.

(ix) An undertaking from OEM for the software that the offered software additionally supports cameras for all approved manufactures.

(x) Details of service centre of Hardware OEM in India.

If required the GPPC may ask for the additional information as well as may invite the Bidder for discussion on its Bid.

The Envelopes containing information as per above instructions, must be sealed individually with super scribed as

"TECHNICAL BID for **Installation of CCTV surveillance system at GPPC Solar PV Power Plant "**

Both the Envelopes are to be placed in another bigger envelope which is to be superscribed as **"BID for Installation of CCTV surveillance system at GPPC Solar PV Power Plant** "

2.17.7 Following checklist is intended to ensure that all information necessary to evaluate your proposal has been included. Please indicate Yes / No or Acceptable / Not Acceptable, whichever is not applicable.

Sr. No.	Name of the Document	Submitted Yes/No	Comments, If any
1	All the documents must be stamped and self certified, in two copies.		
2	Proof of Tender Fee & EMD payment, either original Bank Guarantee or Demand Draft in Favour of GPPC.		
3	Annexure – 1 – Letter of Confirmation with respect to understanding of the complete scope of services as envisaged, No Deviation in the Bid Document		
4	Copy of power of Attorney / Authority to sign the Bid Documents.		
5	Annexure – 2 – Details of the Company		
6	Certificate from Practicing Chartered Accountant for the year wise turnover and profit of last three years		
7	The List of jobs carried out by the Bidder for Providing IP Based CCTV surveillance system to industrial plants in last Three (3) years and its Documentary evidences to substantiate the same. (Annexure –3)		
8	Details of the Authorizations shall be available from the Manufacturer (1) Technical Compliances to the specifications, this should be vetted by manufacture (2) Authorization that the items quoted by tender in production and serviceable for next 5 years.		

	(3) Letter from manufacturing for supporting system for next 5 years.		
9	Architecture diagram clearly marking each component, Total Bill of Quantity (BOQ) and brief functionality therein along with data sheets of the products and components in soft copies.		
10	An undertaking from the OEM for the software that the offered software additionally supports cameras for all approved manufactures.		
11	Details of service centre of Hardware of OEM in India.		
12	Confirmation from Bidder for Technical Specification as per Annexure 4.		
13	Price Bid as per Annexure 5 (online only)		
14	Copy of PAN Card		
15	Copy of Service Tax No.		

2.18 BID Closing Date

2.18.1 The prospective BIDDER requiring any clarification shall write to GPPC on or before the last date of Bid Clarification i.e. **1st July, 2014,** so as to ensure submission of BID on or before the Last Date of Submission of BID.

2.18.2 The prospective Bidder may send their queries seeking clarification to : ojas@gspc.in
with a copy to : sudhir@gspc.in, ketan.parekh@gspc.in

2.18.3 GPPC will notify for clarification/ amendments on or before **10th July, 2014** on https://gppc.nprocure.com & GSPC/ GPPC websites. The Bidders are advised to check websites for the same.

2.18.4 Last date for submission of the Technical BIDs: by **15.00 hrs. of 22nd July, 2014**

2.18.5 Date and time of Technical Bid Opening **: 16.00 hrs of 22nd July, 2014**

2.18.6 Date and time of Price Bid Opening **: 15.00 hrs of 1st August, 2014**

2.18.7 Any BID received by GPPC after the deadline for submission of BID prescribed by GPPC may be rejected. GPPC will not be responsible if BID is not delivered in time by the Post or Courier or any other reason what so ever. The responsibility of ensuring on-time submission of their offers lies entirely with the bidders.

2.18.8 If there is any change in the dates, it will be notified on https://gppc.nprocure.com & GSPC/ GPPC websites accordingly.

2.18.9 The Technical Bid may be submitted to the General Manager (Commercial) at following address:

Shri Sudhir Shah
General Manager (Commercial)
GSPC Pipavav Power Company Ltd.
2nd Floor, Building no. A/78/3-8
Beside iGATE, GIDC Electronic Estate
Sector-25, Gandhinagar - 382 016
INDIA
Phone No. :- +91 79 66701686 / 87
FAX No. :- +91 79 23288056

2.19 BID OPENIGN AND EVALUATION

(i) The authorized representatives of the GPPC will open the Technical Bid.
(ii) The bid of any bidder who has not complied with the conditions prescribed herein or conditional BID is liable for rejection.
(iii) Price Bid of only the technically qualified bidders shall be considered for evaluation .

2.20 RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BID

(i) The right to accept in full or in part/parts the Bid will rest with GPPC. However, GPPC does not bind itself to accept the lowest Bid and reserves the right to reject any or all the Bids or any part of a Bid so received and no compensation shall be paid for the efforts made by the bidder.
(ii) The right to abandon Biding process without assigning any reason will rest with GPPC. No compensation shall be paid for the efforts made by the bidder.

(iii) GPPC may reject to Bid of the Bidders, if it is found that the Bidder/ Contractor is black listed on previous occasions by the any of the Departments/Institutions/Local Bodies/Municipalities/Public Sector Undertakings, etc.

2.21 AWARD OF CONTRACT

2.22.1 GPPC will award the contract to the successful evaluated bidder whose bid has been found to be responsive and who is eligible and qualified to perform the contract satisfactorily as per the terms and conditions incorporated in the BID DOCUMENT.

2.22.2 GPPC will communicate the successful bidder by a Letter of Intent (LOI).

2.22.3 The successful bidder will be issued the Work Order within a period of 15 days from the date of issue of LOI.

2.22.4 Failure of the successful bidder to comply with the requirements of above clauses shall constitute sufficient grounds or the annulment of the award and forfeiture of EMD.

2.22 EVALUATION OF BIDS

The Bids shall be evaluated in two stages:

2.23.1 Stage-I Review of Bid Security & Review of Un-priced Commercial bid

2.23.1.1 On the date of bid opening as shown on cover letter of this Bid, Technical Bid will be opened.

2.23.1.2 The Technical Bid must accompany with Tender Fee and EMD.

2.23.1.3 Technical Bids which are found deficient on general scrutiny will be treated as non-responsive and may be rejected.

2.23.2 Stage-Il: Opening of Price Bid

2.23.2.1 Price bids of Technically Qualified Bidders shall be opened.

2.23.2.2 The Price Bids will be scrutinized for compliance with Bid.

2.23.3 Evaluation methodology

(i) The bidder is to mention value of EPC Cost, in the table of schedule of rates, in Indian Rupees only, in the format as mentioned in bid document at Annexure 5. Based on which the Bid will be evaluated.

(ii) The Bid with lowest quote at Annexure 5 shall be considered as L-1. The Bid second to lowest quote shall be considered as L-2 and so on.

Section – 3

Bidders Qualification

3. BIDDERS QUALIFYING CRITERIA:.

3.1 Bidder has paid Tender Fee of Rs.10,000 (Rupees Ten Thousand) and EMD of Rs. 27,000/- (Rupees Twenty Seven thousand only) in form of Bank Guarantee or demand draft in favour of GSPC Pipavav Power Company Limited, Gandhinagar (Gujarat).

3.2 The Bidder must have experience of Installation of CCTV Surveillance System to minimum three industries/organisation/ units/plants in India with order value not less than Rs.5 Lacs each, in last three years. Copy of order/contract or proof of the same is to be provided in the Technical Bid).

3.3 Bidder must have PAN card.

3.4 Bidder must have Registration Certificate of the Company.

3.5 In last three years, Bidder must have the annual turnover of over Rs. 20,00,000/- (Rupees Twenty Lacs) and Bidder must be a profit making in all the last three years. Bidders to submit Certificate of a practicing Chartered Accountant in this regards.

3.6 Bidder must not be Black listed by any Government Department/Autonomous bodies / PSU etc. An undertaking that the Bidder has not been blacklisted by any Government Department/Autonomous bodies / PSU etc. is required to be submitted by the Bidder.

3.7 Bidder should have above stated requirements and the GPPC reserves the right to request for any additional information and reserves the right to reject the proposal of any Bidder, if in the opinion of the GPPC, the qualification data is incomplete or the Bidder is found not qualified to satisfactorily perform the works. Bidders have to submit the supporting Documents /proofs etc., duly stamped and self certified, for all above qualifying criteria.

3.8 Bidder must have Operating base in Gujarat and must have Controlling Office/ Head Office/ Registered Office/ Regional Office/ Service Engineer/ Service station in city/ town not more than 250 KM far from the Solar Park, village Charanka, Dist. Patan, Gujarat.

Section – 4

Scope of Work

4. SCOPE OF WORK

GPPC operates a 5MW solar power plant at Village Charanka, Ta. Santalpur, Dist. Patan in the state of Gujarat. Scope of work shall be broadly for Installation of CCTV based Surveillance system shall comprise of tentatively 15 nos. of IP cameras (8 nos. PTZ type and 7 no. fixed type). The cameras shall be day and night type. There shall be 01 no. of Network Video Recorder (NVR), Video storage server and 02 nos. of workstations & 01 no Laptop for remote monitoring.Tentative architectural diagram is placed at Annexure 7.

It is clearly understood and agreed by the Contractor that time is the essence of the contract as the work under this contract is very important and critical for the project execution and commissioning on schedule.

The scope only outlines, but not limited to, the services expected from the Contractor for the project. It is not the intent to specify minute details of parts/ components/ services to be provided. All technical matters / packages / systems / equipments, which are required for the integrated, smooth & efficient operation of the CCTV system of the Solar Power Plant as a whole, are deemed to be included in the scope of services whether specifically mentioned or not.

The Contractor shall extend the necessary, comprehensive, timely and effective services in all respects till the handing over of the system to GPPC.

It shall be Contractor's total responsibility for the final design, engineering, procurement, manufacture, transportation, installation, testing and commissioning of various equipment to meet and fulfill the overall system requirements / objectives specified in this documents.

In the event of any conflict, variation or inconsistency between the provision of this Contract Document, as it may be amended modified or supplemented from time to time and any Other provisions of this Agreement, the stringent provisions favorable to the Owner shall prevail.

Detailed Scope of work / Services To provide a CCTV based surveillance system for monitoring of complete plant premises and critical areas as proposed by GPPC, covered hereunder is indicative only and shall not be limited to:

4.1 OVERVIEW OF WORK

Scope of the job is to provide Turnkey Solution that includes but is not limited to Design, Supply, Installation, Implementation, Commissioning, Training, providing user manual, providing 12 months Warranty and 5 years Post Warranty AMC for the total solution including all hardware, software, materials, services and support etc. for providing a Integrated Video Surveillance System for GPPC, Charanka. Job also includes all related jobs at controlling office at all the Locations. All necessary cabling / wiring / sockets and allied infrastructure conforming to respective quality / standard norms are also included in the scope of this job.

4.2 SOLUTION OVERVIEW

PART-I: Supply and Installation of the CCTV Surveillance System**:**

4.2.1 The envisaged CCTV Integrated Video Surveillance system shall be a Hybrid System with distributed architecture having control station at the Control Room of the plant & viewing facility at the Security cabin/Any other area envisaged may be at Head Office at Gandhinagar. Fixed Day and Night Surveillance Cameras shall be used at the entry & other strategically important points while PTZ Cameras shall be used for general surveillance of the Plant. All the cameras should be capable to record all the activities even zero light (Zero lumens).

4.2.2 Design, Supply, Installation, Testing and Commissioning of 8 nos. High Performance Day-Night Colour True IP Network PTZ Dome Cameras and 7 no. of Day-Night Outdoor Colour Fixed IP Network Camera with lens along with Integrated positioning system with pan-tilt unit, weatherproof housing with IR Illuminator, in-built lightning & surge protection and suitable mount complete with cables, connectors, required interfaces etc. as per specifications

mentioned elsewhere in the Bid. The PTZ cameras shall be installed on 6 mtr pole.

4.2.3 A network, comprising of ports and switches each and media converters connected with OFC (with One Pair spare for future use), shall be laid at each plant for transmission of signal from cameras to the Control Stations. The Main Control Station shall have a Server (with Monitoring & Video Management Software) for Video Storage, a monitor, a workstation, a UPS, a Switch & a Joystick/PTZ Controller. The Sub-Control Station at Security Room shall have a monitor for monitoring the Video only.

4.2.4 The proposed Solution should allow GPPC officials to locally and centrally monitor its facilities from a remote location on a personal computer monitor from GPPC, Head office, Gandhinagar.

4.2.5 The Solution should capture, store, and analyze digital Video images with audio to enable central monitoring, increase operational efficiency, reduce liability, minimize risk and secure people & property.

4.2.6 The digital conversion should ensure secure and ready video access from virtually anywhere on GPPC network. Authorized personnel should be able to check the images of specific locations, people, and events, anytime and anywhere, without reviewing countless hours of video recordings.

4.2.7 The system should be provided with weather proof outdoor IP Fixed /PTZ Camera, lens, housing & mountings to capture video with which, would be viewed & controlled through the Video Management Software, recorded and stored.

4.2.8 The video management software will be used to configure the video management server, and once installation and setup are complete, the video management server should run seamlessly in the background to manage the connections, access and storage. Video management server should receive MPEG-4 or better quality video across the network from Cameras. The server should stream incoming video and audio to a connected storage.

4.2.9 The viewing mode can be controlled remotely also by the system. The Video Management Server, Workstation, Monitors will all be placed at the control room with additional work station at Security Cabin/other areas as envisaged.

4.2.10 Audio/Video transmission will be mainly over a wired network.

4.2.11 Power supply to the camera and other outdoor & indoor equipment will be drawn from the available power source (415/230 V, 50 HZ). In power supply to

camera or any other equipment related to this job if additional cable laying, cable termination, converter or any other modification required should be in Contractor's scope.

4.2.12 Appropriate outdoor casings and housings of the same make as of camera should be used for the outdoor equipments. The Outdoor cameras shall be housed in IP66 casings. All housings shall be of the same make as that of the camera.

4.2.13 Software shall allow event based and motion based alarms and schedule based recording options of locations/events deemed sensitive by GPPC within the plant.Supply, Installation, testing commissioning client workstations with dual graphics cards for installation of two monitors (22"& 42" LED monitors) and network video recorder. The client workstations shall be installed in control building and in security cabin. Also Lap Top shall be supplied with downloading of all the software to monitor the plant from GPPC, Gandhinagar.(or Any Other Remote Location)

4.2.14 Supply, Installation and commissioning of required industrial grade network switches, industrial grade media converters, fiber termination units pigtails for splicing of OFC etc.

4.2.15 Supply, installation, testing & commissioning of Minimum 1 KVA UPS (Batteries provided with back up time of 120 Minutes system) for the entire CCTV system. UPS shall be located at Control room. From Panel Power source to UPS, UPS to all other CCTV equipment power supply drawn is in the scope of the Contractor i.e GPPC may spare one feeder to the Contractor for power requirement of entire CCTV system.

4.2.16 Supply and installation, concreating, of 6 mtr (Above Ground) height pole / mast for mounting of cameras at appropriate location so as to monitor the overall Solar Plant. The Contractor has to check the shadow effect of the pole and after confirmation from GPPC, location of the pole should be finalized.

4.2.17 Supply & installation of rack cabinet for housing of all networking, CCTV equipment, fiber termination units, media converters, power distribution boxes, isolation switches, MCB, weatherproof power cable junction boxes with suitable cable glands and plugs for electrical power distribution boxes , required supporting structure for housing, clamps, cement concrete, painting, GI wire, GI riser etc.

4.2.18 Supply & laying of Armoured copper power cables, Cat 6 networking cable, OFC cable as per requirement for complete the work.

4.2.19 The job includes supply of suitable lugs, connectors & accessories and carrying out glanding, tagging, ferruling and termination of the power cables at cameras, power distribution boxes, junction boxes etc. so as to provide UPS power to the entire CCTV system component. Power supply from grid/ plant is available however If Automatic voltage stabilizer or any other voltage regulator required for the system it is in the Contractor's scope.

4.2.20 The body of Cameras, Junction Boxes/ housings/ poles shall be earthed with the existing earth pits. The scope includes supply & installation of suitable GI wires for making the earth connections of cameras/ junction boxes/ housing.

4.2.21 Supply, erection and installation of MS cable markers, including excavation and installation of markers

4.2.22 The Server shall make continuous recording of all cameras for 24 hrs x 7 days with hardware should have adequate storage for a period of 30 days. System Integrator should provide the exact storage calculation. If necessary, additional storage in form of hard disk drive shall be provided by the Contractor.

4.2.23 Supply & Installation of all the installation materials so complete the work in all respects. All installation materials required for proper installation & commissioning of the system but not mentioned herein and is not in this document shall be deemed to be installation material and shall be provided by the contractor. The quality of materials used shall be of the highest order and shall confirm to the applicable industrial standards.

4.2.24 After commissioning the Video surveillance system, the same shall be demonstrated for all its capabilities to the relevant user department to make them familiar with the system on mutually agreed dates.

4.2.25 Arranging tools, tackles, machinery, test instruments, consumables, skilled manpower etc. complete in all respects for installation, testing and commissioning of the system.

4.2.26 During Site Acceptance Tests the performance of each equipment and system as a whole shall be measured and documented. Any failure/ equipment switchover shall be documented. List of all equipment, spares/ components etc. shall be prepared.

4.2.27 Preparation of Functional Design Specifications, Documents, Factory Acceptance Test Procedures, Site Acceptance Test & Final Acceptance Testing Procedures etc. and obtaining approval from the GPPC.

4.2.28 On completion of the works and before issue of certificate of completion, the contractor shall provide as built documents including manuals and operating instructions, software, software keys/passwords and training to GPPC's personnel in all aspects of system design, theory of operation of equipments, functional details, trouble shooting and familiarization with systems as per scope of work etc.

4.2.29 Any other instrument/ equipment/ service, which is not explicitly mentioned above or in this document but deemed necessary for the successful operation of the system complete in all respects, shall be in Contractor's scope. Bidder to include in its offer any additional item required to meet the overall system requirement & functionality. In case additional items are required during execution of contract to meet the system requirements, Contractor is to supply the same & for that no extra payments (item cost, taxes, duties etc.) would be paid by the GPPC for such items and the cost of these items shall be construed to be included in the contract prices. The extra items to be provided by the Contractor shall be confirming relevant industrial standards.

4.2.30 The intent of the specifications is to cover the turn key responsibility for (1) Site survey, selection of equipment and system engineering for design, supply, installation, integration and commissioning of CCTV based security surveillance system and various sub system required to complete the system in all respect (2) The equipment offered together with all services to be performed by the contractor as covered under the specifications of this work shall be fully in compliance with the requirements (3) The contractor shall furnish together with data requirements, complete bill of materials, drawings, technical data, information, technical literature for operation and maintenance and other details required to fully establish the capability and performance of the equipment offer.

4.2.31 The materials offered together with all services to be performed by the Contractor as covered under the specifications of this work shall be fully in compliance with the requirements stated herein.

4.2.32 The Contractor shall be responsible for providing all materials, equipment, installation / maintenance tools and services, specified or otherwise, which are required to fulfill the intent of ensuring operation-ability/ maintainability and reliability of total materials covered under these specifications. The work and materials shall be in compliance with all applicable, statutory regulations and safety requirements applicable.

4.2.33 The interpretation of the GPPC in respect of the scope, details and services to be performed by the Contractor shall be binding upon the Contractor.

4.2.34 Applications of the proposed System should include tracking movements / verification and recognition, through high quality images, of persons and objects including vehicles. The recordings of the scene of the Jurisdiction shall be helpful in case of enquiries etc. in establishing the truth.

4.2.35 Software should be able to trigger & pop up Real Time videos on trigger of any Video Analytic Alarm. The software should be able to record for all the cameras with time stamping.

4.2.36 Software should support display of time Line, Customizable Site Map, Live Video, Video Playback, Integrated Site Map, Remote Live View, Multi-site capability, Encryption, Watermarking and Event based Recording.

4.2.37 Software should have Real-time Video Analysis features & configuration options like:

(1) Motion Tracking/ Detection

(2) Object Classification

(3) Object Counting

(4) Alarm Policy Setting

(5) Alarm on Object Type

(6) Alarm on Camera Manipulation/ Temper Proof Alarm

(7) Automatic Alarm Response

(8) Audible Siren/ External Alarm Input

(9) E-mail & SMS

(10) Event Based Search

(11) Configuration of Video and Audio setting

(12) Configuration of Image setting

(13) Features like Back light compensation, White Balance **etc.**

4.2.38 The system shall be internally protected against system errors and hardware damage resulting from electrical transients on power wiring and signal wiring which may be generated by switching large electrical loads or by power line faults and connecting & disconnecting devices or removing or inserting printed circuit boards in the system.

4.2.39 Drawings and Data Requirements to be submitted by the Contractor for the complete system like:

(1) Technical Architecture of Proposed System

(2) Complete Bill Of Quantity (BOQ)

(3) Complete Data Sheet

(4) Complete Material Specification

(5) Video Management and Software specification

(6) Test Records and Commissioning Documents.

(7) Diagrams and Wiring connection.

(8) Operation and Maintenance Manual

(9) As Built Drawings

4.2.40 All the Cables of Power, Control, Data etc. should be directly buried 300 mm below the ground level with HDPE (with sufficient size) conduit pipe as per approved drawings and as per instructions of GPPC. The cables so laid and those are under the sand cushion shall be covered with a layer of 100 mm thick fine dry river sand. The thickness of this layer of sand shall be from the bottom of the cable. Lying of the cable shall be as per standard industrial practices.

4.2.41 Bricks separator shall be provided between high voltage cables and low voltage cables, signaling cables wherever they are running in the same route.

4.2.42 All exposed cables shall be securely fastened, and rigidly supported on cable trays, structural steel and masonry individually or in-groups as required using clips and clamps. Cables trays shall be supported at every 500mm. The contractor shall make holes in walls and slabs if necessary and shall make good the same without any extra financial implication.

4.2.43 Where cables rise from trench to equipment, instrument and instrument junction boxes then HDPE Pipe shall be used to route the cables and to ensure mechanical protection above ground. Cables shall be identified with tags attached to each cable. The tags shall be supplied by the contractor and stamped with the cable tag number as per cable schedule marking. Tags shall be of lead or aluminum. Tags shall be attached to cables maximum intervals of 30 metres. All cores of the cables shall be identified by means of printed ferrules/ tags. The numbering shall be as per cable schedule All necessary clamps, cable

fixers such as brackets, saddles, screws, nuts, bolts, etc. shall be fabricated, supplied and installed without any extra cost, any extra financial implications..

4.2.44 Painting: Wherever applicable painting of structures by applying two or more coat of paint of approved brand (Asian, Berger, Nerolac or equivalent) and shades (as approved by GPPC). The painting to be carried out after removing all dirt & remains of loose powdered material by scrapping and sand papering and preparing the surface smooth including necessary repair to scratches & apply one coat of Red Oxide. The painting job also includes supply of all material, paint and labour etc. The job of painting is part of installation services no extra payment shall be.made by GPPC.

4.2.45 The GPPC and its representative shall have the right to inspect and test each equipment at all stages of production and commissioning of the system. The inspection and testing shall include but not be limited to raw materials, components, sub-assemblies, prototypes, produced units, guaranteed performance specifications, etc. For factory inspection and testing, Contractor shall arrange all that is required e.g. quality assurance personnel, space, test gear etc. for successfully carrying out of the job by the GPPC and/or his representative, at the Manufacturer's work.

4.2.46 It shall be explicitly understood that under no circumstances shall any approval of the GPPC or his representative relieve the Contractor of his responsibility for material, design, quality assurance and the guaranteed performance of the system and its constituents.

4.2.47 If during 'Site Acceptance Test' any defect is noticed in the system, the Contractor shall rectify/ replace the same to the satisfaction of GPPC at no extra cost.

4.2.48 As GPPC's scope, GPPC shall make available the sites to the Contractor to carry out the job from administrative point of view.

4.2.49 Any statutory consent/approval/permit for the CCTV system shall be obtained by the contractor.

4.2.50 The entire CCTV surveillance system should be acceptable and inconformity with the police and other statutory Authority as the case may be.

PART-II: COMPRHENSIVE ANNUAL MAINTENANCE CONTRACT (AMC) POST WARRANTY**:**

4.2.51 During the post warranty comprehensive AMC period all software / services etc. as required to rectify any defect, will be provided by the Contractor at no extra cost to GPPC. Material / hardware /spares as required for such maintenance would also be provided by the Contractor. No extra amount is payable by GPPC during Warranty (12 Months) and post warranty AMC other than quoted AMC rates. Complete system will be covered under post warranty Comprehensive AMC as per rates quoted in the price bid for a period of 60 months after the date of completion of warranty. The post warranty comprehensive AMC rates quoted in price bid for 5 years shall be included in the evaluation. The rates as quoted by the contractor in the bid shall be payable during the AMC period. Escalation of 10% from the 2nd year of the AMC shall be payable.

4.2.52 Routine maintenance service: This is an on-site maintenance, which should be carried out Six times in a year (Average One visit in Two Month). Purpose of visit is to check system healthiness and problem solving

4.2.53 Breakdown maintenance service: In case of system breakdown, the Contractor shall depute Engineers to restore the system at the earliest, within 48 Hours.

4.2.54 Apart from Routine and Break down services if GPPC wish then Contractor shall depute their engineer in the case of theft, accident or any critical occurrence happened in the plant. The Contractor has to demonstrate the footage, event, photos, and video recording of the plant to police, insurance company or any other authorized person as per instruction from GPPC. After receiving such information from GPPC and the Contractor shall depute their representative.

4.2.55 Software support and technical services: Software additions / modifications /upgradation technical assistance to Purchaser's Engineers, technical discussions with Purchaser's Engineers /Technicians at Contractor’s facility etc. are included.

4.2.56 The personnel deployed to site shall have thorough knowledge of the system and at least two years of experience in maintenance of similar system

4.2.57 Quarterly prorated payment of finalized AMC amount will be made after successful completion of each quarter of respective post warranty AMC, should GPPC enter into AMC for that respective year.

4.2.58 GPPC reserves the right to order for the post warranty AMC along with the main order or after the completion of the warranty period of one year, and such decision solely is at GPPC‟s discretion. GPPC reserves the right to sign the post warranty AMC for all 5 years or part of it or none.

Any upgrades to software/Hardware with respect to firmware and revisions during the period of contract, warranty and AMC should be provided by the Contractor at no extra cost to GPPC. No extra amount is payable by GPPC for any other visit of engineer for any work.

Section – 5

GENERAL TERMS AND CONDITIONS

5. GENERAL TERMS AND CONDITIONS

5.1 Copies of Documents, Drawings, reports, etc.:

All the required reports, documents, working sheets, data, correspondence/submissions with required national/international offices, details etc. shall be submitted in three hard copies along with editable soft copies on CD to GPPC including revisions thereto. All the documents, report etc. submitted by the Contractor should be clear & legible.

5.2 Insurances:

The responsibility of all types of applicable and required insurance coverage for the Contractor's personnel and material/equipment etc. deployed for the scope of services shall rest with the Contractor and in no way GPPC shall be responsible for any liability / damages, whatsoever it may be.

5.3 : Correspondence & language

The Contractor shall correspond in hard copies as well as through E-mail & fax etc. All correspondence, reports documents will be in the English language only.

5.4 Prices / Fees

Price as mentioned in Annexure 5 of the Bid shall be effective only after issuance of Work Order by GPPC and acceptance of the Work Order. The amount payable by GPPC to the Contractor shall not be more than as bidded by the Contractor in the Bid.

5.5 Delivery Period/ Completion of the Job:

The entire work comprising of completion of the site Survey, finalization of BOQ, material dispatch along with material inspection, and final commission,shall be completed within 70 days from the placement of Work Order.

5.6 Progress of Work/ Penalty/Liquidated Damages:

If it is found that the work is unsatisfactory and not progressing then action would be taken by GPPC as may be deemed fit to see that work is completed at the risk and cost of the contractor. If work is not completed as per schedule period penalty of 0.5% per week of the EPC Cost, subject to the maximum of 10%, shall be levied. .

5.7 Payment Terms

a. Payment Schedule for Supply and Instalaltion of the entire survilience system

GPPC shall pay to the Contractor in the following manner on achievement of following milestone/ activity, on the basis of the EPC Cost. Payment shall be made in Indian Rupees only.

Sr. No.	Milestone/ Activity	% of Total EPC Costwithout AMC Charges.
1	Excavation for cable laying, supply & laying of cable, erection of poles, burring the cable etc.	10%
2	On receipt and successful installation & commissioning of cameras, workstation, lap top, computer, video recorder, server, and other required hardware etc. and its successful demonstration thereof	75%
3	On successful commissioning & completion of Site Acceptance Test & acceptance of entire system by GPPC and submission of As-built documentation	15%

b.

5.8 Retention of Money

10% of the Contract price, without AMC charges, shall be retained as Retention money. The Retention money shall be recovered at the rate of 10% on each RA bill of EPC Cost as mentioned in Annexure 5. The Retention money shall be released after satisfactory completion of 6 years i.e. on completion of the EPC & AMC Work Order.

5.9 Payment Schedule for AMC Services of surveillinace system

a. There shall not be any AMC Charges during first 365 days from date of final acceptance of the entire surveillance system.

b. AMC charges for the 2nd year of AMC from 365 days of final acceptance of the system shall be 1% of EPC Cost as mentioned in Annexure 5 of the Bid.

c. From 3rd year to 6th Year, AMC charges shall be escalated at the rate of 10% per year.

The payment during AMC period of the Surveillance system shall be done on completion of 90 days in a quarter.

5.10 Mode of Payment

Invoices complete in all respects, raised by the Contractor shall be paid through cheque payable at Gandhinagar / Ahmedabad within Thirty (30) Days from the date of receipt of the same by GPPC Corporate Office.

5.11 Submission of Invoice

The invoice in triplicate along with all required documents complete in all respects shall be submitted to the person designated by GPPC.

5.12 Confidentiality

The Contractor shall hold in confidence this assignment and all activities relating to the Project and all documents and other information whether technical or commercial which is of a confidential nature supplied by or on behalf of the GPPC relating to the design, construction, insurance, operation, maintenance, management and financing of the Project and shall not, save as required by law or appropriate Competent Authorities disclose the same to any third party.

5.13 Literature, drawings & documents

All reports, drawings, diagrams, designs, specifications, material lists, flow sheets, patterns and other documents collected / prepared in connection with the services hereunder shall at all stages be and remain the properties of GPPC and while in the custody of the Contractor shall be fully available to GPPC and its duly authorized representatives. On completion of the assignment, the entire data/information/reports etc. etc. mentioned here-in-above shall be delivered by the Contractor to the GPPC. Similarly all the drawings, design, calculations, specifications, lists, photographs, soft copies, CD' s and other technical documents including operation and maintenance manuals, etc. Pertaining to the project, furnished by the Contractor shall also be the properties of GPPC and to be delivered to GPPC on completion of the work.

Literature, drawings, reports, instruction manuals etc. of different manufacturers, suppliers and Bidders which are made available to the Contractor shall be used exclusively for the project activities only and shall not be used for any other purpose. The same shall also be carefully preserved by the Contractor till the completion of the project and returned to the Company in good condition, prior to closing of the contract.

5.14 Language

The English language will be used in all written communications between GPPC and the Contractor with respect to the services to be performed hereunder and with respect to all documents procured or prepared by the Contractor in connection with the project.

5.15 Assignment

This being a turnkey contract considering expertise, experience and resourcefulness of the Contractor, all the services for the comprehensive Services shall be provided by the Contractor. The rights and liabilities of the Contractor shall not be assigned or transferred by them.

However, if it is decided that the project shall be executed by other agency/organization, GPPC shall have right to assign this order to the other agency at any time.

5.16 Indemnity

The Contractor shall indemnify the GPPC in respect of all claims, damages or injury or damage to any representative of the Contractor and / or property assigned to this project.

5.17 Contract Validity

The order given to the Contractor shall be valid till the final completion of the work.

5.18 Cancellation / Termination

The GPPC at its discretion reserves the right to cancel / terminate the contract partly or wholly or reduce the scope of services, at its discretion, by giving 10 (ten) days notice without assigning reasons during the tenure of the contract, which shall be binding to the Contractor and the Contractor shall be paid fees only for the actual work carried out based on discussion, agreements, justification, documents: Whereas, against scope reduction, if any, the justified reduction in contract price shall be Bided, discussed and agreed and accordingly contract price shall be amended.

5.19 Governing Law

The Order shall be governed by Law of India.

The Gandhinagar / Ahmedabad courts shall be the exclusive jurisdiction.

In case of the arbitration, the place of Arbitration shall be Gandhinagar/ Ahmedabad.

5.20 Effective Date

This order will be effective only after receipt of unconditional acceptance of the Work Order.

5.21 Work Permit

The Contractor shall work in the plant premises only after taking written work permit form GPPC or their representatives available at plant site.

Annexure 1 to 7

Annexure – 1

(To be submitted on the Bidder's Organization Letterhead)

(To be included in the Envelope-1 of Technical Bid)

(Copy of the Power of Authority to sign to be submitted along with this letter)

Date:-

To,

General Manager (Commercial)
GSPC Pipavav Power Company Ltd.
2nd Floor, Building no. A/78/3-8
Beside iGATE, GIDC Electronic Estate
Sector-25, Gandhinagar - 382 016

Dear Sir,

Subject: Technical Proposal – Submission / Confirmation on Proposal for Installation of **CCTV surveillance system** for GPPC's Solar Power Plant.

I / We _____ authorized person of _____, a _____ company, herewith enclose Technical Proposal for selection of my / our firm / organization for the Installation of **CCTV surveillance system** for GPPC's Solar Power Plant.

I / We _____ herewith confirm that we have understood the complete Scope of Services as

envisaged in the Bid Document as CCTV surveillance system to be provided to GPPC at GPPC's power plant.

It is also confirmed hereby that no deviation in accordance with the Bid Document is taken and we shall comply the Bid Document in totality.

The Bid is valid up to 180 from the last date of Bid submission.

I/we also confirm that my/our agency has not been blacklisted by any Government Department or PSU of GOI/GOG as on the date of submission of the Bid.

I/We also confirm that my/our company/organisation or its working employees are not convicted by any court.

I/we also confirm that products quoted is not end of life and it shall support spares, patches for the quoted Products and shall be available for next 6 years. Certificate from OEM for the same is also attached herewith.

I/We here by agree to abide by and fulfil all the terms and provisions of the Bid document and contract for work/supply as applicable and in case of default thereof to forfeit and pay to the Company the sums of money due.

Yours faithfully,

Signature _____

Full Name _____

Designation _____

Name of the Bidder _____

Annexure - 2

Information and Documentary Evidence of Bidder's Qualification

1. General Information of the Bidder		
1.1	Bidder's Legal Name	
1.2	Bidder's Legal address in Country of Registration	
1.3	Address of Bidders' Regional Office/ Head Office/ Controlling office in Gujarat	
1.4	Bidder's Legal status (Proprietorship / Partnership / Limited or Incorporated / Limited Liability Concern / Others)	
1.5	Bidder's Year of Registration (Copy of the Company Registration to be submitted)	
1.6	Bidder's Business Status	
1.7	Bidder's Authorized Representative Information	
	Name	
	Address	
	Telephone / Fax Numbers	
	E-mail address	

1.8	To attach copies of following Documentation: i. Copy of the notarized Power of Attorney, authorizing a person to sign the Proposal on behalf of the Bidder. ii. Copy of the PAN Card iii. Copy of the Service tax no.				
2.	***Qualification Information of the Bidder)***				
2.1	Year wise turnover and profit of last three year. (CA Certificate to be submitted)		2013-14	2012-13	2011-12
		Turn Over			
		Profit			
3. ***Bid Validity (Not less than 180 days from the date of Bid Closing)***					
The Bid is valid up to : _____					

Signature _____

Full Name _____

Designation _____

Name of the Bidder _____

Annexure - 3

Assignments Undertaken During Last 3 Years

1. Details of Company(ies) /organization where **CCTV surveillance systems are provided by the Bidder. (Including all ongoing Contracts)**

Sr.No.	Name of the Company/ Organization	Address and Location where services are provided. Location Name of the Project	Date of Commencement of the Services	Date of Completion of the Services	Name of the Contact person of the company/ organization to whom services were provided	Phone No. and e-mail id of the Contact person.	Remarks
1							
2							
3							

(Please. attach copy of each contract / agreement. Letter issued by respective organization for work completion may also be attached.)

Annexure – 4

(To be submitted on the Bidder's Organization Letterhead)

Technical Specification

	Supply of Materials for CCTV System	Confirmation Yes/No
1	**IP Based PTZ Camera**	
1.01	28 X Optical Zoom & 12X digital zoom Outdoor IP network PTZ Day/Night Camera with housing, mounting, power source including all require accessories Make- AXIS/PELCO/BOSCH/SONY/SAMSUNG/HONEYWELL/INFINOVA	
1.02	Latest Imager 1/4" CCD or better	
1.03	Video Resolution or Effective Pixels- 1920 (H) X 1080 (V)	
1.04	The camera should have minimum Color Illumination of 0.5 lx for day mode and 0.1 Lux for night mode. 0 Lux with IR	
1.05	The lens should have the capability to focus on large areas, as well on small unidentified objects with a wide Focal Length of 4.0 to 85 mm with a optical field of view 2.3 degree to 55 degree	
1.06	The camera can be zoomed on to any suspicious object/human being with a minimum Optical Zoom of 20 X Day and night mode for mission critical application	
1.07	Pan Range 0 to 360 deg, continuous 24/7 application	
1.08	The operator in the control room can manually control Pan Speed up to 120 Deg/Sec. The same should also be programmed as a preset up to 360 deg/ sec for effective outdoor coverage ith at least 90 presets.	

1.09	Tilt Range - 5 to 90 deg with a tilt speed of 120 deg/sec for maneuverability in all directions	
1.10	The camera should use H.264 compression, bandwidth throttling,and multicasting capabilities to efficiently manage bandwidth and storagerequirements while delivering the best image quality and resolution.	
1.11	IP cameras should generate two separate H.264 video streams and one JPEG stream simultaneously. This advanced tri-streaming capability enables to tune live viewing and recording equirements separately	
1.12	The IP Camera should have support Network Protocols RTP, Telnet, TCP, IP, UDP, HTTP, IGMP, ICMP,	
1.13	The IP Camera should have Network Connectivity Ethernet, 10/100 Base Tx	
1.14	If the controlling PC (equipped with the remote monitoring software)fails, then the camera Encoder's built in web server should enable any PC on the network to monitor camera for mission critical application.	
1.15	Camera should have a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. As the camera is zoomed each mask changes size smoothly and quickly ensuring that the covered object cannot be seen. Also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.	
1.16	Multiple Alarm inputs of minimum 4. Intelligent Video application to perform certain pre – defined functions upon the receipt of the Alarm like Motion Detection, Two Way Audio	

	Detection, Temper detection etc.	
1.17	Camera should have full camera control and configuration capabilities over the network. Operators or technicians can control camera pan/tilt/zoom operation, presets, tours, and alarm management functions virtually anywhere without need for additional wiring.	
1.18	Universal Data Protocols to be supported: RS 232,RS 485,Bi Phase for control	
1.19	Housing should be made of cast aluminum for corrosion resistance, and have outdoor weather proof standard IP66. Also have temperature range -10º C to 50° C. Operating Humidity (Min) : 5% to 93% relative humidity	
1.20	Video output 1.0Vp-p ± 0.1Vp-p, 75 ohms	
1.21	Signal to noise ratio Greater than 50 dB	
1.22	Power-AC/DC, PoE	
1.23	IR irradiation distance: Minimum 120 mtr, IR irradiation angle: Adjustable by zoom	
1.24	Continuous Motion 24 X 7, SD/SDHC slot up to 32 GB	
1.25	Alarm Action- Preset, Patron, Pattern , Relay Output, Notification on Client	
1.26	The IP based PTZ camera shall conform to the ONVIF standard.	
2	**IP Based Fixed Camera**	
2.01	1/3" Color Fixed Camera with in-built 5 mm to 50 mm Veri-Focal Auto Iris Lens, Outdoor IP 66 Standard weather proof housing with mounting & all require accessories Make-AXIS/PELCO/BOSCH/SONY/SAMSUNG/HONEYWELL/INFINOVA	

2.02	The IP fixed camera shall be a compact, high-impact rated, CMOS color camera with progressive scan technology. 10 X Optical Zoom, 12 X digital zoom	
2.3	Image Resolution Minimum is 1280 X 720	
2.4	The IP fixed camera shall provide direct network connection using H.264 and M-JPEG compression and bandwidth throttling to efficiently manage bandwidth and storage requirements while delivering outstanding image quality. It shall be at 4CIF/D1 and CIF resolutions	
2.05	The IP fixed camera shall be AC/DC,Power over Ethernet (IEEE 802.3af Class 3).	
2.06	The IP fixed camera shall conform to the ONVIF standard.	
2.07	The user shall be able to view video on a PC using a Web browser.	
2.08	The IP fixed camera shall provide three independent, fully programmable privacy mask areas.	
2.09	The camera should have minimum Color Illumination of 2.0 lux for day mode and 0.2 Lux for night mode. 0 Lux with IR	
2.10	The IP fixed camera shall deliver DVD-quality 4CIF video, at rates up to 25 images per second and multicasting capabilities to manage bandwidth and storage requirements efficiently while delivering the best possible image quality and resolution.	
2.11	The IP fixed camera shall generate two independent H.264 streams and a JPEG stream simultaneously. Allow streaming high-quality images for live viewing while recording at a reduced frame rate and, at the same time, stream JPEG images to a remote device.	

2.12	The IP fixed camera shall conform to the ONVIF standard. Provide an alarm input that may be triggered by either a normally opened or normally closed contact.	
2.13	Provide a relay output that may be selected for normally opened or normally closed operation. The relay can be activated from an external alarm input to the camera, manual activation from the browser, upon video motion detection, or video loss.	
2.14	Data Rate: 9.6 kbps to 16 Mbps	
2.15	Frame rate: H.264: 1 to 50/60 (PAL/NTSC)M-JPEG: 1 to 25/30 (PAL/NTSC)	
2.16	Multiple Alarm inputs of minimum 4. Intelligent Video application to perform certain pre – defined functions upon the receipt of the Alarm like Motion Detection, Two Way Audio Detection, Temper detection etc.	
2.17	Camera should have full camera control and configuration capabilities over the network. Operators or technicians can control camera operation, presets, tours, and alarm management functions virtually anywhere without need for additional wiring.	
2.18	The IP Camera should have support Network Protocols RTP, Telnet, TCP, IP, UDP, HTTP, IGMP, ICMP etc.	
2.19	IR irradiation distance: Minimum 50 mtr, IR irradiation angle: Adjustable by zoom	
2.20	Continuous Motion 24 X 7, SD/SDHC slot up to 32 GB	
2.21	Alarm Action- Preset, Patron, Pattern , Relay Output, Notification on Client	

2.22	Operating Temperature Range (Min): -10° to 50°C (-4° to 122°F), Operating Humidity (Min) : 5% to 93% relative humidity	
2.23	Outdoor housing with having Water/Dust Protection; IP 66/NEMA 4X including suitable mounting	
3	**VIDEO STORAGE SYSTEM**	
3.01	VSS shall be an embedded, all-in-one IP Video Storage subsystem that provides "plug-and-play" iSCSI-based recording and management.	
3.02	VSS shall be a pre-configured and pre-installed iSCSI disk array.	
3.03	VSS shall be a 2 U rack-mount chassis with eight (8) hot swappable, 3 Gbps SATA-II hard disk drives with RAID-5 protection. The data shall be protected even if one hard disk drive completely fails	
3.04	VSS shall be configured with MINIMUM 4 x 2 TB 24 x 7 hard disk drives in RAID-5 configuration and two (2) redundant 1 GbE network interfaces.	
3.05	VSS shall be installed with the Microsoft Windows Storage Server 2003, 2008, 2012 operating system.	
3.06	Offered storage should be sufficient to record all cameras for 30 days@CIF,25 FPS	
3.07	Processor : Intel Pentium G6950 Dual Core 2.8GHz, 1 x 3 MB Level 2 cache memory,1333 MHz	
3.08	RAM: 8 GB, DDR3-1333 ECC UNB (4 x 4 GB) of memory installed.	
3.09	Storage: VSS shall meet the following storage specifications: a. Gross Capacity: 8 x 1 TB	

	b. Net Capacity: 6412 GB c. Bandwidth: 200 Mbit/s d. iSCSI Sessions: 64+ (64+ concurrent iSCSI sessions indicate the number of concurrent recording sessions plus 8 sessions for replay)	
3.10	Connectors a. Power: IEC male b. Host Ports: Two (2) RJ-45 Gigabit Ethernet 10/1000 BaseT compatible c. USB Ports: 4 USB 2.0; 2 in rear, 2 in front	
3.11	Input Voltage 230VAC.	
3.12	Operating Temperature : UP TO 55°C	
4	MONITORING AND CONTROLLING SOFTWARE FOR Minimum of 18 CAMERA (Software & Camera should be of the same make or software should be approved by OEM of camera)	
4.01	Video management server software (VMSS) shall support Windows Server 2003 ,2008, 2012 and Windows7 Professional	
4.02	VMSS shall be work on Server and Client architecture	
4.03	It shall have central video management server software(VMSS) to provide distributed NVR solution & shall not work on dedicated NVRs	
4.04	VMSS should do central management of all communication and configuration data, software shall have license for viewing & recording of minimum 18 cameras and expandable up to 64 camera & shall have minimum 2 operator client.	
4.05	Provide overall status information such as uptime, bit rate, retention times, status on recording and on storage	
4.06	The VMSS shall Set up the entire system and configuration of individual devices, storage systems and users	

4.07	VMSS shall Provide configuration of the network attached storage subsystems, recording parameters such as schedules, data rates, frame rates, streams and privileges.	
4.08	The VMSS shall manage all disk arrays in the system as a single virtual common pool of storage. It shall dynamically assign portions of that pool to the encoders and IP-Cameras.	
4.09	The VMSS shall provide redundancy for storage provisioning and failover design for central recording management service.	
4.10	It shall Manage user and group's privileges and roles, Integrate senders and cameras into the system, Configure senders and cameras, Create users and user groups, Regulate access to recordings.	
4.11	It shall Protect against unauthorized access a. Each sender and camera shall be protected against tampering with device passwords for different access levels. b. User administration function shall set different users to have different access rights to recordings. c. Access to Configuration Manager shall be password protected.	
4.12	VMSS shall support direct Network attached storage replay and shall provide the timeline information	
4.13	The VMSS software shall provide status monitoring information as a web interface. The following information shall be provided: a. Uptime of the VMSS software b. Bit rate information for the recorded data c. Retention times per camera d. Status on recording and storage	
4.14	It shall do management of digital video having full virtual matrix switching and control capability, Two Way audio and data across the IP network.	

4.15	It shall monitors the status of cameras, inputs/outputs and system peripherals and alert the SMS of any faults if due necessary.	
4.16	It shall possible to create user group with different access rights to specific cameras, priority for pan/tilt/zoom control, rights for exporting video, and access rights to system log files	
4.17	It shall support dual Authorization Logon function for operator access group	
4.18	It shall generate a report any modification done to the system; what was changed, who & when	
4.19	It shall have 10 different and independent programmable recording schedules. The schedules may be programmed to provide different record frames rates for day, night, and weekend periods as well as holidays and special days	
4.20	It shall have facility to create group of cameras to display in sequencing mode when activated both on the client work station image panes and/or directly on the analogue monitor onnected to a video decoder graphical user interface (GUI) that provides an administrator-configured logical tree The logical tree shall be freely configurable with any tree structure, with nodes consisting of devices such as, cameras, inputs, and relays or folders, maps, sequences, documents, URLs, or command scripts	
4.21	The site maps shall be capable of being zoomed and panned to a of the zoomed site map currently in view show a desired location simply using a standard PC mouse and there shall be separate Overview Map that shows the operator the portion of the zoomed site map currently in view	
4.22	An area in the center of the image pane shall be used for zoomin/ zoom-out control. Once zoom is initiated, likewise the zoom speed shall increase as the mouse cursor moves further	

	from the center of the image pane	
4.23	a) The software shall have graphically display device status on its icons in the logical tree structure and on sitemaps. The following status shall be provided: (a) loss of the analogue video signal (b) network connection loss (c) Video signal too noisy (d) video signal too bright (e) video signal too dark video includes associated Two Way audio b) open or close status for relay or contact inputs	
4.24	VMSS SERVER STRUCTURE AND ARCHITECTURE	
4.25	The central VMS server shall have the capability to keep and track history of the data and where they are stored.	
4.26	All updates to the operator client and configuration client shall bem automatically deployed from the central server	
4.27	A) The VMSS shall support simultaneous time-synchronous playback of up to 16 cameras. Playback shall support singlestep forward and backwards; play normal speed forward and backwards; play high-speed forward and backwards; and play slow-speed forward and backwards. B) The VMSS shall support search of recorded video for motion in user-specified areas of a camera image. C) The VMSS shall support search of recorded video with at least the following criteria: object size, object color, direction, and speed as well as detecting objects entering or leaving designated areas. This Intelligent Video Analysis (IVA) based post-recording search will work for cameras assigned to the VMSS.	

D) The VMSS shall optionally display the information of the video analytics such as cells with detected motion, object masks, and trajectories.

E) The VMSS shall support searching based on any combination of time/date-rage, event type(s), alarm priority, alarm state, and device(s). It shall be possible to save and recall search parameters.

F) The VMSS shall graphically display device states on its icons in the logical tree structure and on sitemaps. For cameras, the states shown shall include: loss of the analog video signal, network connection loss, video signal too noisy, video signal too bright, video signal too dark, video de-adjusted, and video includes associated audio. For relays and contact inputs, the open or close state shall be indicated.

G) The VMSS shall support switching of cameras to analog monitors connected to decoders. The cameras shall be selectable via drag and drop from the logical tree or from the sitemaps.

H) The VMSS shall support the audio channels of the Cameras/encoders. It shall be possible to assign audio sources to cameras. In the Operator Client it shall be possible to turn on/off the replay of the audio per camera.

I) The VMSS shall support two different audio modes, single source audio and multi source audio. In single source audio mode only the audio source assigned to the camera in the selected image pane is replayed. In multi source audio mode all audio sources of the cameras displayed in the client application are replayed.

J) The VMSS shall support site maps with hot-spot icons for devices (cameras, relays, and inputs), command script initiation, camera sequence initiation, and links to other site maps. The site maps shall be capable of being zoomed. The

hot-spot icons representing devices that can generate alarms shall blink when a corresponding alarm is generated. The hot-spot icons shall be configurable to optionally display the device name or link title.

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

L) The VMSS shall support PTZ control with a dedicated graphical joystick control. It shall also support PTZ control via clicking the mouse in the image panes. For PTZ cameras, the cursor shall change to indicate the Pan/Tilt direction when hovering over the corresponding image pane. The Pan/Tilt speed shall increase as the cursor moves farther from the center of the image pane. An area in the center of the image pane shall be used for zoomin/ zoom-out control. Once zoom is initiated, the zoom speed shall increase as the cursor is moved farther from the center of the image pane.

M) The VMSS shall support digital zoom of any image pane. A dedicated graphical control shall be provided in the user interface for this purpose. In addition, the mouse wheel shall control digital zoom when the mouse cursor is hovering over a selected image pane.

N) The VMSS shall provide an Instant Playback function that displays recorded images on one or multiple image panes. Recorded images from a single camera may also be played back on multiple panes. Instant playback supports pause, play forward, play reverse, single step forward, single step

	reverse, fast-forward, and fast-reverse. O) The VMSS shall support a timeline that provides a graphical overview of video stored on the disk. The timeline shall display a timescale that can be adjusted from at least 15-minutes per division to 1 month per division. For each camera displayed in playback mode, the timeline shall provide a line that depicts the video storage for that camera. The line shall be color-coded to show if video is recorded for the displayed time period, and if so, if it is normal recording, motion recording, or alarm recording. The line shall be cross-hatched if the video is protected from deletion. The line shall also indicate if associated audio is recorded during the displayed time period. For VMSS recordings no color coding is available P) The VMSS shall provide an administrator-configured Logical Tree. The logical tree shall be freely configurable with any tree structure, with nodes consisting of folders or maps, and leaves consisting of devices (cameras, inputs, and relays), sequences, documents, URLs, or command scripts. Each user group shall only see items in the logical tree for which the administrator has granted access. Q) The user shall be able to search the logical tree for item names. R) The VMSS shall provide a user-dependent Favorites Tree. The Favorites tree shall allow maps, folders, and devices and complete views (image pane patterns with camera assignments) to be configured by each user in a user-defined structure. The user's favorites tree shall be available irrespective of the computer with which he logs on to the system. S) The VMSS shall provide an Image Window that displays a collection of Image Panes. The number of image panes per	

	image window shall be variable between 1 (a single full-window video) and 25, arranged in a 5x5 grid. A slider shall be available allowing the grid size to be changed from 1, 2x2, 3x3, 4x4, and 5x5. The VMS shall allow image panes to be enlarged or decreased in size within the grid. E.g., in a 5x5 grid, a single image pane can be enlarged to use 4 of the grid elements, creating a larger image within the grid. Any pattern can be created within the grid structure. An image pane can be resized by clicking and dragging on any corner, dragging the corner to the desired size. T) The video management shall implement the concept of a selected image pane. The selected image pane is marked by a yellow border. There shall always be a selected image pane in the Operator Client application. The selected image pane is	
4.28	Digital Joystick Keyboard Support: When CCTV Keyboards are connected to Operator Client Workstations, it shall be possible to do following functions: A.Control the current Image Pane selection using the keyboard joystick. B. Control the analog monitor groups in the system or control any Image Pane on the connected Operator Client Workstation C. Control PTZ operation of the selected cameras using the keyboard joystick. D. Control set and call-up PTZ prepositions of the selected camera E. Execute PTZ and AutoFixed Aux commands of the selected camera F. Control playback of video, including both Instant Playback and Playback-mode synchronous playback G. playback control should include jog-shuttle emulation using	

	the Keyboard Joystick.	
4.29	ALARM HANDLING AND MANAGEMENT It shall have simple and efficient way to handle any incoming alarms Alarm activation and notification based on specific time schedule Alarm videos shall be displayed in a separate Alarm Image Window so that operators do not have to search their display screens to find the video images related to the alarm The VMS shall support up to 100 alarm priorities settings and wave file per alarm e-mail or SMS message to respective personnel in response to an alarm if necessary. The VMSS shall support following list of features in Alarm handling & management: A. The VMSS shall provide the capability to allow alarms to be schedule-dependent. B. The VMSS shall allow alarms to be individually allocated to specific user groups for processing. C. The VMSS shall be programmable to selectively, per alarm and per user group, automatically pop-up the alarm video. D. The VMSS shall support display of alarm video in a special Alarm Image Window so users do not have to search their display screens to find the alarm images. E. The VMSS shall display alarm video in rows of Alarm Image Panes, with one row per alarm, and with up to 5 Image Panes per row. F. The VMSS's Alarm Image Panes shall be configurable to display live video, playback video, text documents, site maps, HTML files, or web sites (URLs).	

	G. The VMSS's Alarm Image Pane rows shall be displayed in order of their priority, with rows for higher priority alarms always displayed above lower priority alarm rows. The display order for equal priority alarms shall be selectable between new alarms displayed above existing alarms, or new alarms displayed below existing alarms. H. The VMSS shall operate as follows: when an alarm is accepted by a user, it shall be removed from the other users' alarm lists. I. The VMSS shall allow a user to Un-accept an alarm he has previously accepted. In this case, the alarm shall re-appear in the alarm lists of all members of the user groups assigned to this alarm. J. The VMSS shall support the association of workflows with alarms. Workflows shall consist of action plans and comment boxes. An action plan shall display a text document, HTML page, or web site that typically contains instructions for handling the alarm. Comments entered in the comment boxes shall be logged in the system logbook. K. The VMSS shall offer the possibility to automatically clear alarms when the originating event condition is no longer true. L. The VMSS shall allow alarms to be configured to send cameras to prepositions or to execute camera Aux commands on occurrence. M. The VMSS shall be configurable to put any IP-connected camera into alarm recording mode on alarm occurrence. N. The VMSS shall be configurable to send an e-mail or SMS message in response to an alarm. O. The VMSS shall be capable of displaying video on analog monitors connected to video decoders in response to alarms.	

4.30	Logbook A. The system shall protocol every event and alarm in an SQL database. The alarm entry shall contain the camera titles that have been recorded due to this alarm. B. The logbook shall be able to store at least 500,000 entries per hour. If the capacity of the logbook is filled up the oldest entries will be deleted to create space. C. The user shall be able to search the logbook for events and alarms. The user shall be able to export the search results into a comma separated value list (CSV).	
4.31	Command Scripts A. The VMSS shall provide a command script interface that allows system operations to be programmatically controlled. B. The system shall provide a built-in editor for the creation of the command scripts. C. The system shall be configurable such that operators can execute the created scripts by double-clicking on representative icons in a logical tree or site map. D. The system shall be configurable such that the created scripts can be executed automatically in response to a system event. The automatic event-driven execution shall optionally be schedule-dependent. E. The system shall be configurable to execute a user-group dependent command script on user logon. F. The system shall be configurable to execute an alarm dependent command script on user acceptance of the alarm.	
5	**JOYSTICK** A. Power : Via USB interface	

	B. Casing : Polycarbonate ABS C. Operating temperature : 0 °C to 60 °C (32° to 140° F) D. Interface : USB 1.1/ 2.0 compliant E. Approvals: EN 55022: Class B; EN 55024; EN 61000-6-2; FCC Part 15 subpart b; Class B (CISPR 22) C-Tick; VCCI; ICES-003; IP20 F. System requirements : Windows 7, Server 2003, 2008, 2012 G. Functionality: Hall-effect joystick with three axis , X/Y: for pan and tilt , Z: knob for zoom , 6 application defined hotkeys , Deflection Square delimiter , Pan/Tilt (XY): +/- 15° , Zoom (Z): +/- 25° H. Keypad : 22 keys: 10 application defined hotkeys of which 5 are backlit, 0-9, tab, alt , 6 application defined hotkeys I. Jog dial : Deflection Shuttle operating angle 160°	
5	**MONITOR FOR WORKSTATION** 1 No. 42" LED with IPS PANEL , MINIMUM FULL HD 1080i RESOLUTION LED Color Monitor (Flat panel design) suitable for 24/ 7, To suit the requirements of the system. The monitor shall be installed on wall/ ceiling in Equipment Room. Required interfaces and cables of suitable length shall be provided to install the monitor at a suitable location on wall/ ceiling in Equipment Room.Operation MAKE:HP/SAMSUNG/DELL/LENOVA/SONY/LG	
6	**MONITOR FOR WORKSTATION** 1 No. 24" LED with IPS PANEL, MINIMUM FULL HD 1080i RESOLUTION (Flat panel design) suitable for 24/7, To suit the requirements of the system. The monitor shall be installed on wall/ ceiling in Equipment Room. Required interfaces and cables of suitable length shall be provided to install the monitor	

	at a suitable location on wall/ ceiling in Equipment Room Operation MAKE:HP/SAMSUNG/DELL/LENOVA/SONY/LG	
7	**Client PC Workstation for Video Management System (Main Server/ Video Storage Server)**	
7.01	With licensed Operating System Software from the manufacturer, Keyboard with Joystick, furniture along with required cables, connectors, interfaces complete in all respect. The PC provided shall be able to provide high graphics display and with DVD-RW Drive and Blu-Ray RW drive PS mouse and keyboard. MAKE : HP/SAMSUNG/DELL/LENOVA/SONY/LG	
8	**Security PC Workstation for Video Management System**	
8.01	With Operating System Software, Keyboard, furniture along with required cables, connectors, interfaces complete in all respect. Operating system should be capable for monitoring the CCTV online monitoring Make- DELL, LENEVO, HP	
8.02	Processor: Intel Core i5 2.9GHz, 4 MB Cache memory, DDR3-1333/1600 RAM: 4 GB of memory installed. Configured with 1 TB 24 x 7 hard disk drives in RAID-5 configuration and two (2) redundant 1 GbE network interfaces.	
9	OFC Cables & other accessories, UNARMOURED, OUTDOOR, GEL FILLED, SINGLE MODE, Nominal mode-9.0 µm, Cladding diameter- 125 µm, Diameter of outer coating layer field diameter-245 µm (without coloring layer) IEC 793-2: 1992, Category B 1.1, EN 188101, ITU-T Recommendation G.652, The fibre type is a Matched Cladding Single Mode CORE Fibre dual coated with acryl ate coating The fibre is optimized for operation at 1310 nm and at 1550 nm. Fibre Management System comprising of rack mounted media converters suitable for the supplied OFC, Fibre Termination Box cum Fibre	

	Distribution Frame with FC/PC adaptors, FC/ PC patch cords, accessories complete in all respects.	
10	Cables and AccessoriesPower Cable 3 Core x 2.5 mm2 Copper Power Cable (Armoured) 1.1 KV grade LT XLPE insulated, 2XWY, extruded PVC inner sheathed, galvanised round wire armoured as per IS 7098/I (latest edition), suitable for direct laying in underground trenches.	
11	Cables and Accessories: CAT 5 Industrial grade only, Shielded, jacketed (sunlight/oil/dust/rain/UV-resistant), twisted heavy duty Ethernet connectivity. Min 23 AWG. Rugged to ithstand outside operation	
12	Network Racks and Accessories: High performance Industrial Grade Layer Network Switch with optical fibre interfaces.	
13	Client Laptop (4th Generation Intel Quad Core i7 Processor-8GB RAM, 2GB Graphics Card	
14	Compact online UPS System (Minimum 1 KVA) Single phase - Online with minimum Back Up time with full load 120 minutes with SMF batteries etc Make- APC, Tata Liebert, Microtek, Likert, Numeric, Emerson, Battery Make- EXIDE, Amara Raja. The UPS shall be connected to the raw power (to be provided by owner) through MCB(s) and cables etc. to be supplied and installed by vendor, and the output power shall be connected to total CCTV system	
15	Tower/ Pole of 6 Mtr or better, Column Pipe- 1" NB type, Hot dip galvanized, single dip, inside & outside with Base Plate of 20 mm thick embedded in concrete 4 no. with J-bolts. Galvanization Thickness is Min 86 Microns, Max Design Wind speed- 180 KM/hr, Size of foundation- 0.75*0.75*0.6 $M^{3.}$ Ladder- Each of these towers are to be provided INBUILT	

	monkey ladder by fabricate 10mm rods by adjoin triangular pole at every feet up to 6 meters length for installation of cameras.	
16	HDPE Pipe/duct with suitable diameter mimnimum with outer diameter 40 mm Accessories like plastic coupler, end plug, cable sealing plug and end cap as required for jointing the ducts shall be supplied by the contractor along with the duct.	

Approved OEM/ Vendor List

Sr. No.	Description	Approved Makes	Compliance	Remarks
1	28 X Optical Zoom & 12X digital zoom Outdoor IP network PTZ Day/Night Camera with IP 66 Standard weather proof housing	AXIS/PELCO/BOSCH/ SONY/SAMSUNG/HO NEYWELL/INFINOVA		
2	1/3" Color Fixed Camera with in-built 5 mm to 50 mm Veri-Focal Auto Iris Lens, Outdoor IP 66 Standard weather proof housing	AXIS/PELCO/BOSCH/ SONY/SAMSUNG/HO NEYWELL/INFINOVA		
3	VIDEO STORAGE SYSTEM	Bosch, Panasonic, Pelco, Honeywell, Axis, Sony, Milestone, Nice, Panasonic, Mirasys		
4	JOYSTICK	Bosch, Panasonic, Pelco, Honeywell, Axis, Sony		
5	MONITOR FOR WORKSTATION 42" LED	HP/SAMSUNG/DELL/L ENOV0/SONY/LG		
6	MONITOR FOR WORKSTATION 24" LED	HP/SAMSUNG/DELL/L ENOV0/SONY/LG		
7	Client PC Workstation for Video Management System (Main Server/ Video Storage Server)	HP/SAMSUNG/DELL/L ENOV0/SONY/LG		
8	Security PC Workstation for Video Management System	HP/SAMSUNG/DELL/L ENOV0/SONY/LG		
9	UPS System	APC, Tata Liebert, Microtek, Likert, Numeric, Emerson , Rittal		
10	Optical Fibre	AMP/DIGILINK/Finolex		

Annexure – 5

(To be submitted on the Bidder's Organization Letterhead)

Financial Proposal

To,
General Manager (Commercial)
GSPC Pipavav Power Company Ltd.
2nd Floor, Building no. A/78/3-8
Beside iGATE, GIDC Electronic Estate
Sector-25, Gandhinagar - 382 016.

Subject: Submission of Financial / Price Proposal for Installation of CCTV surveillance system.

Dear Sir,

I / We _____ authorized person(s) of _____, a company, herewith enclose Financial/Price Proposal for selection of my / our firm / organization for Installation of IP based CCTV Surveillance System provider to GPPC's power plants.

Yours faithfully

Signature _____

Full Name _____

Designation _____

SCHEDULE OF RATES					
Sl. No.	**Description of work**	**No. or Qty.**	**Unit**	**RATE In Figures To be entered by the Bidder**	**TOTAL AMOUNT Rs.**
				Figures	**Figures**
1.0	**Supply and Installation of Materials for CCTV System**	-	-	- -	- -
1.1	IP Based DOME PTZ Day Night Camera1/4" CCD or better HD 28 X Optical Zoom & 12X digital zoom Outdoor IP network PTZ Day/Night Camera with housing, mounting, power source including all require accessories.	8.00	NO		
1.2	IP Based Fixed Camera Day Night , 1/3" Color Fixed Camera with in-built 5 mm to 50 mm Veri-Focal Auto Iris Lens, Outdoor IP 66 Standard weather proof housing with mounting & all require accessories	7.00	NO		
1.3	Network Video Recorder complete including licensed Operating System Software & licensed software for Network Video Recorder as per Bid specifications.	1.00	Package		
1.4	Workstation (PC) with 42"LED Colour Monitor along with licensed Operating System Software, Keyboard with Hall Effect Joystick with three axis and 12 programmable push-buttons with USB interface, furniture along with required cables, connectors, interfaces with complete accessories (For Control Room) , Work station (PC) LED Colour Monitor (Size 24") along with software and complete accessories (For security Cabin)	1.00	Package		

	,Client Laptop (4th Generation Intel Quad Core i7 Processor- 8GB RAM - 2GB Graphics Card				
1.5	Licensed Video Monitoring & Control Software for Client Workstation complete with complete accessories	1.00	Package		
1.6	Compact online UPS System with minimum 120 mins backup with SMF batteries etc.	1.00	Package		
1.7	Network Switches, Supplying and laying of Optical Fibre Cable with Fibre Management System comprising Rack mounted Fibre Termination Box cum Fibre Distribution Frame with Industrial Media Convertors (Ethernet/optic fibre interface), FC/ PC adaptors, FC/ PC patch cords, AC/DC Distribution Box, MCBs, Isolator Switches, Power cable 3 core x 2.5 mm2 Armoured, Weatherproof IP65 Junction Box etc. all the accessories complete in all respects.	1.00	Package		
1.8	Supplying and laying of HDPE pipe 40 mm/ suitable for cable laying OD with all accessories	2100.00	Mtr		
1.9	6 meter pole Supplying and erection/installation.	8.00	Package		
1.10	Rack/ Cabinet for housing Networking/ CCTV equipment & accessories in Administrative Building along with dual compact UPS Systems including power distribution boxes, MCBs/ Isolator Switches, required installation materials as per Bid specifications and All other Miscellaneous work related to services	1.00	Package		
Total EPC Cost in Figures					
Total EPC Cost in Words					

Annexure – 6
Format For Bank Guarantee For EMD

(To be stamped in accordance with Stamp Act, if any,)

To

GSPC Pipavav Power Company Limited
GSPC Bhavan, Near Udyog Bhavan, Sector 11, Gandhinagar-382 011 GUJARAT, INDIA

Dear Sirs,

In accordance with Invitation for Bids under your Bid Document No., M/s …….…. having its Registered/ Head Office at (hereafter called the 'Bidder') wish to participate in the said Bid for *[Name of Contract Package]* .

As an irrevocable bank guarantee against Bid Security for an amount of Rs. 27,000/- (Rupees Twenty Seven Thousand only) valid for *[valid for 45 days from the Bid validity date]* days from (**) required to be submitted by the Bidder as a condition precedent for participation in the said Bid which amount is liable to be forfeited on the happening of any contingencies mentioned in the Bidding Documents.

We, ... the .....*[Name & address of the Bank]*, having our Head Office at (#) ..... guarantee and undertake to pay immediately on demand by..... *[Name of the GPPC]* ..... …… the..... amount..... …… of (*) ..... without any reservation, protest, demand and recourse. Any such demand made by the 'GPPC' shall be conclusive and binding on us irrespective of any dispute or difference raised by the Bidder.

This Guarantee shall be irrevocable and shall remain valid up to (@) ..... If any further extension of this guarantee is required, the same shall be extended to such required period (not exceeding one year) on receiving instructions from M/s [Contractor's Name]..... on whose behalf this guarantee is issued.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this ……. day of 20…… at……

WITNESS

_____ _____

(Signature) (Signature)

_____ _____

(Name) (Name)

_____ _____

(Official Address) (Designation with Bank . Stamp)

Attorney as per Power of Attorney No……

Date

NOTE

1. (*) The amount shall be as specified in the Bid Document

   (**) This is the Bid Opening date.

   (#) Complete mailing address of the Head Office of the Bank to be given.

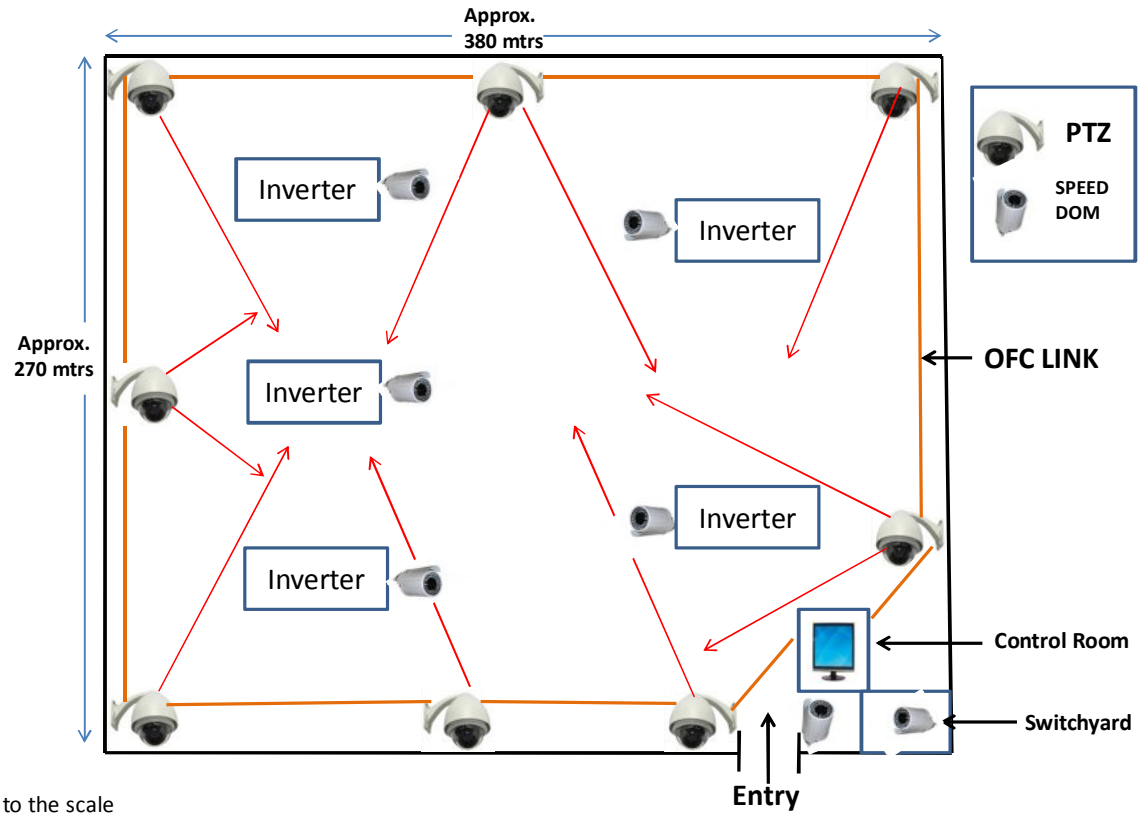
(@) This date shall be forty five (45) days after the last date for which the Bid is valid.

2. The Stamp Paper of appropriate value shall be purchased in the name of guarantee issuing Bank.

3. The Bank Guarantee shall be from a Bank as per provisions of ITB.

Annexure - 7

GPPC NETWORK DIAGRAM : 5MW SOLAR PLANT



Note: to the scale