



ANNEXURE-'A'

Enquiry No. 1570 Inv./C&I/O&M/PC-2412  
 Dated: 24-03-2023  
 Due on 21-04-2023

SCHEDULE OF REQUIREMENT

| Sr. No. | GHTP Code | Description of Material | Unit | Qty. |
|---------|-----------|-------------------------|------|------|
| 1.      | TP750812  | CCTV Cameras 4 MP       | Nos. | 8    |
| 2.      | TP750814  | 16 CHANNEL NVR          | Nos. | 1    |
| 3       | TP750806  | 08 PORT GIGA SWITCH     | Nos. | 1    |
| 4       | TP750803  | CAT-6 CABLE             | Mtr. | 300  |
| 5       | TP750832  | 32 INCH LED             | Nos. | 1    |
| 6       | TP750819  | Media Converter         | Nos. | 12   |
| 7       | TP750816  | 4TB HARD DISK           | Nos. | 1    |
| 8       | TP750834  | Fibre Cable 4-Core      | Mtr. | 3000 |
| 9       | TP750808  | Rack 4U                 | Nos. | 1    |
| 10      | TP750817  | 4 Port POE Giga Switch  | Nos. | 6    |
| 11      | -----     | Installation Charges    | Nos. | 8    |

Technical Specifications for Material

The detailed technical specifications for material required and installation work are as follows:

1. ONVIF Conformat 4 Megapixel IP based Fixed Bullet Camera Qty. (8)

| Sr. No. | Parameter                | Specification                      |
|---------|--------------------------|------------------------------------|
| 1       | Image Sensor             | 1/2.8" -1/3" Progressive Scan CMOS |
| 2       | Minimum Illumination     | 0.01 Lux/ F 2.0 Lux at IR On       |
| 3       | Electronic Shutter Speed | 1/50s - 1/50000s                   |
| 4       | Image Resolution         | 1920x1080                          |
| 5       | Compression              | H.264, MJPEG                       |
| 6       | Motion Detector          | Yes                                |
| 7       | Aspect Ratio             | 16:9                               |
| 8       | Lens                     | 2.8/3.0mm                          |
| 9       | IR led                   | Yes                                |
| 10      | IR Cut Filter            | Yes                                |
| 11      | IR Distance              | Above 30 meter                     |
| 12      | IR Light Wavelength      | 850nm                              |
| 13      | Day/Night                | Auto/Color/B&W                     |
| 14      | Gama Correction          | 0.45                               |
| 15      | White Balance            | Auto/Manual                        |
| 16      | S/N Ratio                | >60DB(AGC off)                     |
| 17      | AGC                      | Auto/Manual                        |
| 18      | BLC                      | Yes                                |
| 19      | D-WDR                    | Yes                                |
| 20      | Privacy Masking          | Yes                                |



|    |                       |   |
|----|-----------------------|---|
| 21 | Noise Reduction       | 2D DNR, 3DDNR   |
| 22 | Protocol              | IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS |
| 23 | Connector             | 1 input & 1 output  |
|    | Text Overlay          | Date & Time etc.  |
| 25 | Housing               | IP66  |
| 26 | Operating Temperature | -30° C to 55° C   |
| 27 | Mount                 | Wall Mount, Pole Mount  |
| 28 | Make                  | Panasonic/Sony/Honeywell/Bosch/Pelco/Axis/Infinoval/Samsung/Sparash/CP Plus   |

## 2. ONVIF Conformat 16 Channel Network Video Recorder Qty. (01)

| Sr. No. | Parameter           | Specification  |
|---------|---------------------|--|
| 1       | Processor           | Dual Core  |
| 2       | Operating System    | Embedded Linux   |
| 3       | IP Camera Input     | 16 /32 Channel   |
| 4       | Two way Talk        | 1 Channel Input, 1 Channel Output RCA  |
| 5       | User Interface      | GUI  |
| 6       | Video O/P           | 1HDMI, 1VGA  |
| 7       | Compression         | H 264/MJPEG  |
| 8       | Video Resolution    | 1920x1080  |
| 9       | Video Recording     | Max 128Mbps  |
| 10      | Video Display Split | 1/4/8/9/16   |
| 11      | Motion Detection    | MD Zones : 396(22x18)  |
| 12      | Video Loss          | Supports   |
| 13      | Camera Blank        | Supports   |
| 14      | Alarm Input         | 16/32 Channel  |
| 15      | Alarm Output        | 4 Channel  |
| 16      | Hard Disk           | 4 SATA Ports, Up to 16TB   |
| 17      | Trigger Events      | Recording, PTZ, Tour, Alarm, Video Push, Email, FTP, Spot, Buzzer & Screen   |
| 18      | Recording Mode      | Manual, Schedule(Regular, Continuous), MD(Video Detection: Motion Detection, Camera Blank, Video Loss), Alarm, Stop  |
| 19      | Search Mode         | Time/Date, Alarm, MD& Exact Search(accurate to second), Smart Search   |
| 20      | Playback            | Play, Pause, Stop, Rewind, Fast Play, Slow Play, Next file, Previous file, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup, Selection, Digital Zoom |
| 21      | Back Up Mode        | USB Device/Network/Internal SATA burner  |
| 22      | Max User Account    | 128 users  |
| 23      | Record Interval     | 1-120min, Pre-record 1-30sec, Post-record 10-300sec  |
| 24      | Interface Ports     | 1 HDMI, 1 VGA, 2 USB, 1 RS485, 1 RS 232, 1 RJ45,   |
| 25      | Ethernet            | 1RJ-45 Port(10/100M/1000M)   |
| 26      | Protocols           | IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS                                    |
| 27      | Working Temp.       | -10°C-55°C   |
| 28      | Make                | Panasonic/Sony/Honeywell/Bosch/Pelco/Axis/Infinoval/Samsung/Sparash/CP Plus  |

|   |   |        |      |  |
|---|---|--------|------|--|
| 3 | <b>Media Converter:</b><br>site requirement make reputed company.<br>i) Single mode media converter<br>ii) Converts 10/100 BASE-TX Ethernet twisted pair signals to 100 BASE-FX fast Ethernet fibre signals | As per | Nos. |  |
|---|---|--------|------|--|



|   |   |      |      |
|---|---|------|------|
|   | iii) Complies to IEEE 802.3u standards<br>iv) Two connectors for fibre optic connection. One is labeled "Tx" for transmission of optical data; the other is labeled "Rx" for reception of optical data<br>v) Standard RJ-45 port for connecting to Ethernet<br>vi) Power input- 5V 1.25A<br>vii) Make: D-Link/TP Link/ Netgear  |      | 12   |
| 4 | Optical Fibre Cable 4-Core Make: Polycab/Sterlite Tech./ Finolex/ Havells / Paramount or Equivalent.  | Mtr. | 3000 |
| 5 | <b>Rack:</b><br>As per Site Requirement with fan and all accessories (4U or above)<br>Make: D-link/Gadden/iball.  | Nos. | 1    |
| 6 | <b>4CH POE Switch:</b><br><u>Interface:</u><br>8 10/100/1000Mbps RJ45 Ports, Auto Negotiation/Auto MDI/MDIX<br><u>Network Media:</u><br>10BASE-T: UTP category 3, 4, 5 cable (maximum 100m)<br>EIA/TIA-568 100Ω STP (maximum 100m)<br>100BASE-TX: UTP category 5, 5e cable (maximum 100m)<br>EIA/TIA-568 100Ω STP (maximum 100m)<br>1000BASE-T: UTP category 5, 5e, 6 or above cable (maximum 100m)<br>EIA/TIA-568 100Ω STP (maximum 100m)<br><u>Fan Quantity:</u> 1 (One)<br><u>Power Supply:</u> 100-240VAC, 50/60Hz<br><u>Power Consumption:</u><br>Maximum (PoE on): 133.8W (220V/50Hz)<br><u>PoE+ Ports(RJ45):</u> Standard: 802.3at/af compliant<br><u>Backbound Bandwidth:</u> 16Gbps<br><u>Mac Address Table:</u> 4K<br><u>Buffer Size:</u> 1.5Mbits<br><u>Dimensions(W x D x H):</u><br>11.6x7.1x1.7 in. (294x180x44 mm)<br><u>Advanced Features:</u><br>Compatible With IEEE 802.3af/at Compliant PDs<br>Priority Function<br>Mac Address Auto-Learning And Auto-Aging<br>IEEE802.3x Flow Control For Full-Duplex Mode And Backpressure For Half-Duplex Mode<br><u>Transfer Method:</u> Store-And-Forward<br><u>Certification:</u> FCC, CE, RoHS<br><u>Package Contents:</u><br>TL-SG1008PE, Power Cord, Installation Guide, Rackmount Kit, Rubber Feet<br><u>Consumption:</u> 9.5 watts (max. no PD connected)<br><u>Environment:</u><br>Operating Temperature: 0°C~40°C (32°F~104°F)<br>Storage Temperature: -40°C~70°C (-40°F~158°F) | Nos. | 6    |



|   |  |      |   |
|---|--|------|---|
|   | <p>Operating Humidity: 10%~90% non-condensing<br/>         Storage Humidity: 5%~90% non-condensing<br/>         Make: Dlink, CISCO, TP-Link, NetGear, Secureye.</p>  |      |   |
|   | <p><b>8 Port Giga Switch(8+2 Uplink Giga Port):</b><br/>         As per site requirement.<br/> <u>Interface:</u><br/>         8 10/100/1000Mbps RJ45 Ports, Auto Negotiation/Auto MDI/MDIX<br/> <u>Network Media:</u><br/>         10BASE-T: UTP category 3, 4, 5 cable (maximum 100m)<br/>         EIA/TIA-568 100Ω STP (maximum 100m)<br/>         100BASE-TX: UTP category 5, 5e cable (maximum 100m)<br/>         EIA/TIA-568 100Ω STP (maximum 100m)<br/>         1000BASE-T: UTP category 5, 5e, 6 or above cable (maximum 100m)<br/>         EIA/TIA-568 100Ω STP (maximum 100m)<br/> <u>Fan Quantity:</u> 1 (One)<br/> <u>Power Supply:</u> 100-240VAC, 50/60Hz<br/> <u>Power Consumption:</u><br/>         Maximum (PoE on): 133.8W (220V/50Hz)<br/> <u>PoE+ Ports(RJ45):</u> Standard: 802.3at/af compliant<br/> <u>Backbound Bandwidth:</u> 16Gbps<br/> <u>Mac Address Table:</u> 4K<br/> <u>Buffer Size:</u> 1.5Mbits<br/> <u>Dimensions(W x D x H):</u><br/>         11.6x7.1x1.7 in. (294x180x44 mm)<br/> <u>Advanced Features:</u><br/>         Compatible With IEEE 802.3af/at Compliant PDs<br/>         Priority Function<br/>         Mac Address Auto-Learning And Auto-Aging<br/>         IEEE802.3x Flow Control For Full-Duplex Mode And Backpressure For Half-Duplex Mode<br/> <u>Transfer Method:</u> Store-And-Forward<br/> <u>Certification:</u> FCC, CE, RoHS<br/> <u>Package Contents:</u><br/>         TL-SG1008PE, Power Cord, Installation Guide, Rackmount Kit, Rubber Feet<br/> <u>Consumption:</u> 9.5 watts (max. no PD connected)<br/> <u>Environment:</u><br/>         Operating Temperature: 0°C~40°C (32°F~104°F)<br/>         Storage Temperature: -40°C~70°C (-40°F~158°F)<br/>         Operating Humidity: 10%~90% non-condensing<br/>         Storage Humidity: 5%~90% non-condensing<br/>         Make: Dlink, CISCO, TP-Link, NetGear, Secureye.</p> | Nos. | 1 |
| 8 | <p><b>32" Full HD SMART LED TV Make</b><br/>         Panasonic/Sony/Samsung/LG or equivalent.</p>  | Nos. | 1 |



|  |      |     |
|--|------|-----|
| Hard Disk for Storage of Video:- Make Toshiba/Seagate/Netgear/WD/Equivalent of required capacity for one month storage (4TB or above). | Nos. | 1   |
| Cat 6 Cable Make Dlink/Digilink/Netgear/Sterlite Tech. or Equivalent   | Mtr. | 300 |

**SCOPE OF WORK:**

1. The Scope of work shall include design, engineering, supply & delivery of required hardware, software, replacement, erection, testing & commissioning at site/works, training to PSPCL officers/officials and any other work required for the completion of the work. Firm shall be responsible for providing all materials, equipment, and services specified or otherwise which are required to ensure completeness & reliability. As per site requirement including HDPE pipes/fixtures for installation, hard and soft digging etc. shall be in scope of firm.
2. Control of 8 nos. Cameras installed inside GHTP Store has to be provided at office of ASE/S&T by providing the display of CCTV Cameras on 32 inch LED Screen by the firm.
3. The supply & layout along with commissioning work shall be in scope of firm.
4. The material to provide electric supply will be provided by GHTP/PSPCL.
5. The poles for CCTV Cameras installation will be provided by GHTP/PSPCL.
6. The firm shall provide support period of one year after commissioning of materials. The routine mtc. of CCTV system for one year from the date of commissioning shall be in scope of firm. The following works shall be in scope of firm during support period:
  - a) The service engineer of the firm shall visit the site quarterly for routine preventive servicing/maintenance in addition to any emergency visit.
  - b) Cleaning and servicing of the instruments.
  - c) Replacement of the damaged parts shall be done by the firm under warranty period at free of cost.
  - d) Up gradation of the software etc. if required.
  - e) Emergency visit for breakdown/on site trouble shootings of equipment as and when it is reported by this office.

**Note:-**

- a) All Accesories/ Equipments to be supplied including hardware should be of latest technology.
- b) Accesories/ Equipments to be provided should be compatible with already available CCTVs at GHTP.
- c) The firm should mentioned the brand name and detailed technical specifications of Accesories/ Equipments to be supplied by the firm.
- d) All T&P required for erection/commissioning of the system shall be arranged by the firm.
- e) It is advisable to visit the site where CCTV system is to be installed before submitting the quotation.



- f) Supplied Accesories/ Equipments shall include one year onsite warranty of for all items.  
g) Same Accesories/ Equipments shall be from same OEM.

Notes:-1. (i) The firm must have GST Registration number & PAN No. and same should be provided while quoting the rates. If the firm is registered under 'Composite Levies' then the same should be clearly mentioned in the quotation.

(ii) The firm must provide HSN Code in price schedule Performa in Annexure 'C'.

(iii) Bidder have to submit the documentary evidence (Latest copy of memorandum of Micro Small & Medium Enterprises field under section-8 of MSME Act, 2006 duly acknowledged by competent authority) of being a Micro, Small & Medium Enterprise, If the bidder does not submit the proof at the time of submission of its bid, it shall be considered as a Large Enterprise.

(iv) Tax Rate as provided in quotation shall be final.

(v) Any change in GST Rate after the submission of quotation and before the supply (with in delivery period) will be in PSPCL account. However no extra payment on account of increase in GST Rate after the delivery period or supply of material will be made whichever is earlier.

(vi) Due to misclassification of HSN code increase in tax will be in supplier account. However due to misclassification of HSN code decrease in tax will be refunded to the PSPCL.

2. Negotiations, if at all required, shall be held only with the lowest tenderer.
3. Rates should be quoted by the suppliers in their quotations both in figures as well as in words as per Annexure-'C'.
4. Attached price break up schedule must be filled and prices must be type written.
5. For Tendering value less than Rs. 5 lac EMD will not be applicable. Tendering value Rs. 5 Lac and above EMD @2% of the Tender value rounding to the multiple of Rs.10/- on higher side subject to minimum of Rs.10,000/- and maximum of Rs. 20 Lac.  
**Note:- Tender value is to considered including all taxes and other charges. EMD will be applicable on Standardized Firms also.**
6. **SECURITY DEPOSIT-** The successful Tenderers shall be required to submit Security deposit for faithful execution of the purchase order/Contract of value exceeding Rs. 1,00,000/- at the rate of three percent (3%) of ordered value rounded off to a multiple of Rs. 10/- on the higher side. Tenderers exempted from EMD up to Rs. 5.0 Lac will have to submit security deposit for Purchase Orders valued above 1.0 Lac.  
**Note:- As security deposit will not be applicable on supply of proprietary items and firms supplying material under DGS& D rate contract. Security deposit will be applicable on Standardized Firms also.**
7. The payment will be made through RTGS system of digital payments only instead of Cheque/DD. The firm must submit Bank A/c details with the quotation.
8. Your quotation must be valid for at least 120 days from the date of opening.
9. Hand written/conditional quotation shall not be accepted.
10. All other terms and conditions of Annexure-B (attached) and PSEB/PSPCL Purchase Regulations, 2017, amended upto date, shall be applicable.
11. The firm should not be blacklisted by PSEB/PSPCL or any other Govt. Depts./ Organizations.
12. Quantity mentioned in schedule of requirement can be divided and ordered on more than one supplier.

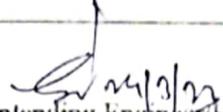
13  
14  
GHTP, LEHRA MOHABBAT

The quotation/tender may be submitted either in person or through registered post but not through courier as courier service is not available at GHTP, Lehra Mohabbat.

"TDS u/s 194Q of Income Tax Act shall be deducted, as applicable."

IMPORTANT NOTE:-

EMD IS PAYABLE THROUGH CASH RECEIPT OR THROUGH DEMAND DRAFT PAYABLE AT LEHRA MOHABBAT/RAMPURA PHUL IN FAVOUR OF AO/O&M, GHTP, LEHRA MOHABBAT.

  
For Superintending Engineer/HQ,  
Chief Engineer/O&M  
GHTP, Lehra Mohabbat.