

Invitation for Sealed Quotation



Y. Prakash

Damak Chamber of Commerce and Industry

Damak Jhpa

1 No Province

SEALED QUOTATION DOCUMENT

FOR

SUPPLY, DELIVERY, INSTALLATION,

TESTING AND COMMISSIONING OF

CCTV

CAMERAS & ITS ACCESSORIES AT

DAMAK MUNICIPALITY



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Technical Specification

Details on the scope of work including the milestones, timelines and deliverables have been presented below:

| S.N. | Component | Description | Deliverable |
|------|---|---|--|
| 1 | Project Kick Off | The bidder is required to mobilize the team within seven (7) days of effective contract/ work order | Activity Plan |
| | | The bidder is required to submit the key point of contact, organization structure for the proposed team, for the proposed solution and services required as per the RFP should be submitted | Project team, organization structure of proposed team. |
| 2 | Current Solution | Based on the technical specification provided below, bidder is required to present the detailed solution of CCTV, fiber network. The solution should include data sheets. Camera Fiber Network should be designed to meet the expectations in terms of scalability, modularity, security, performance, and even the operating aspects of the network. | Solution detail specification |
| 3 | Supply, installation and testing | The Bidder should supply, deliver, install proposed solution including comprehensive two year replacement warranty and service. Installation shall be done as per manufacturer's recommendations and instruction. Testing is mandate for commissioning, functionality and integration aspects of the solutions and is required to be undertaken by the proposed solution OEM or OEM authorized/certified technical personnel representatives. | Applicable License including warranty details and Manufactures authorization, confirmation of testing to be undertaken by proposed solution OEM. |
| 4 | Acceptance | The bidder will be required to present demonstration, walkthroughs and operations to facilitate system acceptance by DCCI personnel. | |
| 5 | System stabilization period and support | The bidder will be required to provide additional implementation support for the interim period in relation to the commissioned solutions to TIA for the time period. This would include on premise and remote support of solution | Escalation matrix |
| 6 | Training and Handholding | The bidder is required to provide extensive training and handholding support to Concerned Persons on the operation, management and admin related activities in relation to the system | |



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| | | in accordance to the timelines and milestone requirements of the RFP. | |
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Technical Specification of Outdoor Fixed Dome

| Description | Parameter |
|-------------------------|--|
| Make: | |
| Model No.: | |
| Camera Features | |
| Image Sensor | 1/2.8" Progressive CMOS or better |
| Maximum Resolution | 2048x1536 (3MP) |
| Focal Length | f = 6 ~ 12 mm or better |
| Aperture | F1.2 ~ F2.3 |
| Auto-iris | |
| Field of View | 35° ~ 100° (Horizontal) |
| | 25° ~ 70° (Vertical) |
| | 40° ~ 130 (Diagonal) |
| Shutter Time | 1/3 sec. to 1/100000 sec. or better |
| Day/Night | IR Cut Filter |
| Wide Dynamic Range | 120 dB or better |
| Digital Noise Reduction | 3D DNR |
| Minimum Illumination | 0.005 Lux @ F1.2 (Color) |
| | 0.008 Lux @ F1.2 (B/W) , 0 lux with IR |
| Digital Zoom | |
| | 16x |
| IR Illuminators | 40 meters |
| On-board Storage | Slot type: MicroSD/SDHC/SDXC card slot |
| | Seamless Recording |
| Video | |
| Compression | H.265 & H.264 & MJPEG |
| Maximum | H.265 & H.264: |
| Frame Rate | 25fps@ 2048x1536 |
| Maximum Streams | 3 simultaneous streams or better |
| S/N Ratio | 50 dB or better |
| Wide Dynamic Range | 120 dB or better |
| Video Streaming | Adjustable resolution, quality and bitrate |
| Image Settings | Time stamp, text overlay, flip & mirror |



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| | Configurable brightness, contrast, saturation, sharpness, white balance, exposure control, gain, backlight compensation, privacy masks |
| | Scheduled profile settings, 3DNR, video rotation, defog, DIS |
| Audio | |
| Audio Capability | Two-Way Audio (full duplex) |
| Compression | G711, G726 |
| Interface | External microphone input |
| | Audio output |
| Network | |
| Users | Live viewing for up to 20 clients |
| Protocols | IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPoE, CoS, QoS, SNMP, 802.1X, UDP, ICMP, ARP, SSL, TLS |
| Interface | 10 Base-T/100 BaseTX Ethernet (RJ-45) |
| ONVIF | Supported |
| Intelligent Video | |
| Video Motion Detection | Motion detection |
| Alarm and Event | |
| Alarm Triggers | Motion detection, manual trigger, digital input, periodical trigger, system boot, recording notification, camera tampering detection, audio detection |
| Alarm Events | Event notification using digital output, HTTP, SMTP, FTP, NAS server and SD Card |
| Connectors | RJ-45 cable connector for Network/PoE connection |
| | Audio input |
| | Audio output |
| | DC 12V power input |
| | Digital input*1 |
| | Digital output*1 |
| LED Indicator | System power and status indicator |
| Power Input | 12V DC |
| | IEEE 802.3af PoE Class 0 |
| Power Consumption | Max. 15 W |
| Casing | Weather-proof IP66-rated housing |
| | Vandal-proof IK10-rated metal housing |
| Safety Certifications | CE, LVD, FCC Class A, VCCI, C-Tick, UL |



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| Operating Temperature | Starting Temperature: -10°C ~ 50°C (14°F~ 122°F) |
| | Working Temperature: -20°C ~ 50°C (-4°F~ 122°F) |
| Humidity | 90% |

Technical Specification of Speed Dome camera

| Description | Parameter |
|----------------------|--|
| Make: | |
| Model No | |
| Camera Features | |
| Image Sensor | 1/2.8" Progressive CMOS or better |
| Max. Resolution | 1920x1080 |
| Lens Type | 30x Optical Zoom, Auto Focus |
| Focal Length | f = 4.3 ~ 129 mm (30x zoom) |
| Aperture | F1.6 ~ F4.4 |
| Iris type | DC-Iris or better |
| Field of View | 2.3° ~ 64° (Horizontal) |
| | 1.3° ~ 40° (Vertical) |
| | 2.6° ~ 70° (Diagonal) |
| Shutter Time | 1/8 sec to 1/30,000 sec or better |
| Day/Night | auto (ICR) |
| Defog | Support |
| IR Illuminators | Built-in IR Illuminators up to 150 meters , Smart IR |
| Minimum Illumination | 0.005 Lux @ F1.6 (Color) |
| | 0.0005 Lux @ F1.6 (B/W) |
| | 0 Lux with IR illumination on |
| Pan Speed | 0.1° ~ 280° / sec or better |
| Pan Range | 360° endless |
| Tilt Speed | 0.1° ~ 280° / sec or better |
| Tilt Range | -10 to 90 auto flip |
| Preset Locations | 256 preset locations |
| | 30 preset per tour , 5 tour |
| Digital Zoom | 16X |
| On-board Storage | Slot type: Micro SD/SDHC/SDXC card slot 128GB |
| | Seamless Recording |
| Video | |



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| Compression | H265, H264, MJPEG |
| Maximum Frame Rate | H.265 & H.264: 60 fps @ 1920x1080 |
| | MJPEG: 30 fps @ 1920x1080 |
| Min Streams | 3 simultaneous streams |
| S/N Ratio | 50 dB or better |
| WDR | 120dB or better |
| Video Streaming | Adjustable resolution, quality and bitrate |
| Image Settings | Adjustable image size, quality and bit rate; Time stamp, text overlay, flip & mirror; Configurable brightness, contrast, saturation, sharpness, white balance, exposure control, gain, backlight compensation, privacy masks (Up to 24); Scheduled profile settings, defog, 3DNR, EIS, HLC |
| Audio | |
| Audio Capability | Two-way Audio |
| Compression | G.711, G.726 |
| Interface | External microphone input |
| | External line output |
| Network | |
| Users | Live viewing for up to 10 clients |
| Protocols | IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPoE, CoS, QoS, SNMP, 802.1X, UDP, ICMP, ARP, TLS, NTCIP |
| Interface | 10 Base-T/100 Base-TX/1000 Base-T Ethernet (RJ-45) |
| ONVIF | Supported |
| Intelligent Video | |
| Video Motion Detection | Five-window video motion detection |
| Auto-Tracking | Auto-tracking on moving object |
| Alarm and Event | |
| Alarm Triggers | Motion detection, manual trigger, digital input, periodical trigger, system boot, recording notification, camera tampering detection, audio detection |
| Alarm Events | Event notification using digital output, HTTP, SMTP, FTP, NAS server and Micro SD card |
| | File upload via HTTP, SMTP, FTP, NAS server and Micro SD card |
| General | |
| Connectors | RJ-45 cable connector for Network 10/100 Mbps PoE connection*1 |
| | Audio input*1 |
| | Audio output*1 |



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| | AC/DC 24V power input*1 |
| | Digital input*2 |
| | Digital output*2 |
| | RS-485 for PTZ control (PelcoD protocol, Baud rate 2400)*1 |
| | Easy Cleaning with Built-in Wiper |
| LED Indicator | System power and status indicator |
| Power Input | PoH/PoE (60W) or less |
| | AC/DC 24V , 12V |
| Power Consumption | Max 60 watt |
| Casing | IP66, IK10, NEMA 4X |
| Safety Certifications | CE, FCC Class A, VCCI, C-tick, NEMA 4X, UL |
| Operating Temperature | Starting Temperature: -40°C ~ 55°C (-40°F ~ 131°F) |
| | Working Temperature: -40°C ~ 55°C (-40°F ~ 131°F) |
| Humidity | 90% |

LPR Camera Specification

| | |
|--------------------------|---|
| Image Sensor | 1/2.8 inch 2 Megara CMOS |
| Max. Resolution | 2MP, 1920(H) x 1080(V) |
| Scanning System | Progressive |
| Minimum Illumination | 0.002Lux/F1.2 (color) ; 0Lux/F1.2 (IR on) |
| Electronic Shutter Speed | 1/50~1/10000 |
| IR Distance | 40m or better |
| Vehicle Speed | 70kmh or better |
| IR LEDs | 6 |
| Lens | |
| Lens Type | Manual/Auto Iris(DC) |
| Lens | 5-50mm option |
| Max Aperture | F1.6 |
| Angle of View | H: 50°~ 5.6 ° V:37.5 ° ~4.2 ° |
| Focus Control | Manual |
| Close Focus Distance | 4~40m for license plate |
| Focus Width Range | 1~2 lanes |
| Intelligence | |



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| License Plate Recognition (LP R) | Embedded |
| Detection model | Loop or video detection |
| Snapshot | Overview and cutout of plate for picture |
| OSD overlay | Time, place,plate number,lane No |
| Barrier control | 2 ch relay out to control the barrier |
| Network | |
| Ethernet | RJ-45 (100/1000Base-T) |
| Interoperability | CGI, SDK, Onvif |
| Max. User Access | 20 |
| Web Viewer | IE8,IE9,IE10,IE11,Chrome V33, V41 |
| Protocol | IPv4/IPv6, HTTP, TCP/IP, UDP, NTP, DHCP, DNS |
| Edge Storage | Micro SD, Max 64GB Status Display Local PC for Instant Recording |
| ONVIF | Supported |
| Video | |
| Compression | H.265/H.264M/H.264H/H.264B |
| Resolution | 1080P(1920x1080) |
| Frame Rate | 1080P(1 ~ 25/30fps) |
| Bit Rate Control | CBR VBR |
| Bit Rate | 32 ~ 16384 Kbps |
| Day/Night | Auto(ICR) / Color / B/W |
| Dual Stream | Support, Main stream and sub stream |
| BLC Mode | BLC,HLC,WDR(140db) |
| White Balance | Auto/Manual |
| Gain Control | Auto/Manual |
| Noise Reduction | 3D |
| Certifications | |
| Certifications | CE FCC |
| Interface | |
| Audio Interface | Input/Output 2 Input / 1 Output |
| Video Interface | BNC |
| RS485 | 1 ch |
| Alarm | 2/2 channel In/Out |
| Eelectrical | |
| Power Supply | POE+ |
| Power Consumption | 20 watt max |
| Environmental | |



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| Operating Conditions | Temperature-30°C~+60°C, Less than 95% RH |
| RS485 Ingress Protection & Vandal Resistance | IP66 |

L3 Router:

CPU 1.4 GHz, RAM 1 GB, 10*1Gbps ethernet port

64 channel NVR

Third-party network cameras supported

Smart H.265+/H.265/Smart H.264+/H.264/MJPEG

Support 2-ch HDMI, 2-ch VGA, HMDI1 at up to 4K(3840x2160) resolution, Multiscreen Display

Max 320Mbps Incoming Bandwidth

Up to 12MP Resolution Recording and playback

Support HDD hot swap with RAID0,1,5,6,10 storage scheme configurable

Support various VCA detection alarm and VCA search

Up to 8 SATA interfaces,

Joystick: or higher

Control Mode: Network

Controllable Devices: PTZ IP Cameras

Screen Display: 5" HD LED Display

Interface: 1x RJ485, 2x RS485, 1x DC 12V, 1x HDMI, 1x USB

Power Supply: DC 12V 2A

Protocol: ONVIF 2.4

Joystick: 3 Axis

Language: English

LCD Television:50 inch (Sony, LG, Samsung or Equivalent)

Every Items for CCTV must have minimum of 2 years replacement warranty with 5 years annual maintenance.



SPECIFICATION FOR SOLAR PANNEL, POLE , BATTREY, CHARGE CONTROLLER

BATTREY

| SN | Description | Specification | Bidder proposal | Bidder's Remarks* |
|----|--|---|-----------------|-------------------|
| 1 | Manufacturer Name | | | |
| 2 | Brand/Model | | | |
| 3 | Battery Type | Lithium Ion | | |
| 4 | Battery Voltage | For lithium Ion, it should be compatible to system voltage | | |
| 5 | Battery Efficiency | 85% | | |
| 6 | Battery capacity | >150AH | | |
| 7 | Self-Discharge | Maximum 3% per month | | |
| 8 | Ambient Temperature at Maximum Discharging Current | -10 °C to 60°C | | |
| 9 | Instruction | Charging instructions shall be provided along with the batteries | | |
| 10 | Warranty | Minimum Warranty of 5 years. | | |
| 11 | Construction | Wire: <AWG12, UL 1007 Standard, Must be color coded Housing: Waterproof aluminum alloy | | |
| 12 | Battery Life Cycle | 1800 cycles at 80% DOD, 3100 cycles at 20% DOD | | |

The following minimum information must be included on the label of the battery and label of battery must be fixed firmly or screen printed on the battery casing:

- Brand and name of Manufacturer
- Model and type
- Rated capacity in Ampere-hours
- Nominal Voltage



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The battery must be manufactured under the controls established by a quality/environment management system that meets the requirements of ISO 9001 & RETS certified.

SOLAR PV MODULES

Solar PV Modules will be procured from companies, complying with the standard set forth in Nepal by AEPC. PV modules shall typically be tested for durability and reliability according to standards developed by the International Electro-technical Commission. Standards IEC61215 (for crystalline silicon modules) include, amongst others, tests for thermal cycling, humidity and freezing, mechanical stress and twist, hail resistance and performance under fixed test conditions.

| SN | Description | Specification | Bidder Proposal | Bidder's Remarks* |
|----|-----------------------------------|--|-----------------|-------------------|
| 1 | Manufacturer Name | NA | | |
| 2 | Brand/Model | NA | | |
| 3 | Module Capacity | Minimum 300W . | | |
| 4 | PV module Type | Mono Crystalline | | |
| 6 | Minimum Module efficiency at STC: | 14.5% | | |
| 7 | Power degradation | A letter provided by principal PV module manufacturer in their letter head stating the warranty period for their PV module. The warranty period for the PV Module must be at least 10 years against a maximum 10% reduction and 20 years against a maximum 20% reduction of output power at STC. | | |
| 8 | Junction Box | IP 65 | | |
| 9 | Module Mounted Structure | Non-corrosive support structures to be fixed on the top of pole | | |
| 10 | Tilt Angle and direction | towards due south around local latitude | | |



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| 11 | Support structure design and foundation mounting arrangements should withstand | Wind Speed up to 180 km/hr | | |
| 12 | Fasteners (nuts and bolts) | Stainless Steel or hot deep galvanized. | | |
| 13 | IEC 61215 (2nd Edition) | Crystalline silicon terrestrial photovoltaic (PV) modules - Design Qualification and type approval. | | |
| 14 | IEC 61730 | PV module safety qualification | | |
| 15 | Certifications | ISO 9001 / ISO 14000 and RETS Certified | | |
| 16 | Solar Module Coating | Sealer usage of 10 to 12ml/square meter | | |

CHARGE CONTROLLER

| SN | Description | Specification | Bidder Proposal | Bidder's Remarks* |
|----|--------------------------------|--|-----------------|-------------------|
| 1 | Manufacturer Name | NA | | |
| 2 | Brand/Model | NA | | |
| 3 | Type | MPPT | | |
| 4 | MPPT Tracking Efficiency | >98% | | |
| 5 | Control Mode | Dusk to Dawn (Voltage Sensing MPPT) i.e., the lamp automatically switches ON after sunset and switches OFF after sunrise. Also include at least three stage of dimming function. | | |
| 6 | Charging Current | 15A | | |
| 7 | Working Temperature & Humidity | -20 to +60 °C | | |



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| 8 | Protection Function | Solar reverse-charging protection, solar reverseconnection protection, battery over charge protection, battery over-discharge protection, battery reverseconnection protection | | |
| 9 | Ingress Protection Degree | IP68 | | |
| 10 | Wireless Communication (Optional) | Must be equipped with wireless communication function | | |
| 11 | Certification | RETS Certification | | |

SOLAR STREET LAMP

| SN | Description | Specification | Bidder Proposal | Bidder's Remarks* |
|----|-------------------|--|-----------------|-------------------|
| 1 | Manufacturer Name | NA | | |
| 2 | Brand/Model | NA | | |
| 3 | Type | WLED | | |
| 4 | LED Light Source | 40 × 1W (Bridge lux, Philips LED chip or equivalent Standard) | | |
| 5 | Luminous Efficacy | At least 100 Lumen/ Watt | | |
| 6 | LED Illumination | Street lamp should have not less than 0.5 Lux /watt perpendiculars from the height of 8 m. The illumination should be uniform without dark rashes on the ground. | | |
| 7 | View Angle | Equal or greater than 2* 50 | | |



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| 8 | Color Rendering Index (CRI) | CRI of individual WLED must not be less than 60 and the color temperature must be in the range of (5000-6000) degree K | | |
| 9 | Lamp Rated Total Power | 40w | | |
| 10 | Driver Circuit | Must have Driver Circuit cum Charge Controller with not less than 85% efficiency. | | |
| 11 | Protection | The lamp must be protected against reversed polarity | | |
| 12 | Certification | Must Submit IP 65 compliance certificate, RETS Certified | | |
| 13 | Expected Life: | The proposed LED life shall be minimum 50,000 hours | | |

The following minimum information must be included in the screen printed label of the WLED lamp

- a. Brand/Model/Serial Number
- b. Nominal Power in Watt

Nominal Voltage

SOLAR STREET POLE

| SN | Description | Specification | Bidder Proposal | Bidder's Remarks* |
|----|-------------------------|---|-----------------|-------------------|
| 1 | Manufacturer Name | NA | | |
| 2 | Type | Hot Dip Galvanized | | |
| 3 | Galvanization Thickness | 80-100 μ m | | |
| 4 | Material | Carbon Steel | | |
| 5 | Height | 9m above ground level | | |
| 6 | Thickness of Pole | At least 4mm | | |
| 7 | Diameter | Base should be not less than 180mm and top should be not less than 80mm | | |



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| 8 | Arm | Single arm (Hot Dip Galvanized) | | |
| 9 | Pole Type | Single Round/ Conical | | |
| 10 | Weight of pole only | > 150kg | | |
| 11 | Battery Box | A vented acid proof and corrosion resistant metallic box with a locking arrangement for outdoor use should be provided for the housing of the battery. It should be attached with solar panel at top. | | |
| 12 | Warranty | Min. 20 years | | |

OTHERS

| Item Component | Applicable Standard | |
|--|--|-----------------|
| | Standard Description Standard | Cables |
| Switches/ Circuit Breakers/ Connectors | General Requirements Connectors- safety | NS/ IS standard |
| Earthing System | Chemical Earthing system in individual poles <ul style="list-style-type: none"> • Chemical Compound >6kg, below 0.5ohm/Jamplus • Copper Bonded Rod: min. 14mm diameter, min. 1.0 meter long, 254microns • Earthing Strip: Copper | |

SCOPE OF WORKS SHALL INCLUDE:

- a. All necessary Spare parts/Tools have to be provided by the contractor.
- b. Suitable Carrying case (if possible) should be provided by the contractor.
- c. The complete Set of Goods shall be warranted by the contractor against any manufacturing/ design/ installation defects for a minimum period of 5 years (powerbackup) and minimum 2 years replacemet warranty for CCTV from the date of installation.
- d. The contractor will make all necessary arrangements for satisfactory operation, maintenance and performance of the Goods during 5 year's Warrantee/Guarantee period.
- e. Rectification of all the defects developed in the Goods during Warrantee/Guarantee period shall have to be done by the contractor promptly, at the most within 2 days from the date of receipt of compliant. However the minor and critical issues has to solved immediately.



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- f. Warrantee/Guarantee will include rectification /replacement of all the defective and consumable components/items. During Warrantee/Guarantee period, all the arrangements for keeping all the goods functional shall be the sole responsibility of the contractor.
- g. After completion of the proposed works, clearances of all temporary works/ materials shall be the sole responsibility of the contractor and this shall be removed immediate after the requirement of such temporary work is completed.
- h. All the non functional parts/ materials/ items replaced during the Warrantee/Guarantee period shall be the property of the contractor.
- i. The contractor will conduct on-site training of the purchaser's/user's personnel regarding the assembly, start-up, operation, maintenance and repairs of the Goods.
- j. Contractor should have enough experience and qualified technical staff to do design, installation and support. Name, experience certificates and CVs of the technical staff who will supervise the installation and support should be included.
- k. The contractor must nominate in the offer a qualified project manager with experience in similar project.
- l. All works carried-out by the contractor should be maintained and ensure proper functioning of street light and CCTV for five years starting from the date of final acceptance.
- m. The Contractor will be responsible for all engineering and design.
- n. The contractor will be responsible for cleaning of the solar PV module for at least five years from the date of installation and commissioning.

पेश गर्नुपर्ने कागजातहरू:

१) फर्म संस्था दर्ता प्रमाण पत्र।

२) अधिल्लो आवको कर चुक्ता ।

३) आवश्यक सामग्री, जनसक्ति, र उपकरण (Fiber Splicing Machine फर्म संस्थाको भएको प्रमाण वा ५ बर्षकोलागि कुनै संस्था बाट आवश्यक समयमा उपलब्ध हुन सक्ने संस्थासँगको सम्झौता)



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